2002

MITSUBISHI ELECTRIC

Service Manual

PLASMA DISPLAY PANEL

PD-5010

CAUTION:
Before servicing this chassis, it is important that the service person read the "SAFETY PRECAUTIONS" and "PRODUCT SAFETY NOTICE" contained in this manual.

SPECIFICATIONS

- **Power** : AC 120V, 50/60Hz
  480W (Typical)
  5.4A (Maximum)
- **Signals**
  Sync Range : Horiz : 15.5 to 93.8 kHZ
  (Automatic : step scan)
  : Vert : 50.0 to 120 Hz
  (Automatic : step scan)
  Input Signals : RGB, HD*1,
  DVD*1, DTV*1
- **Input Terminals**
  RGB : Visual 1 (Analog) : Mini D-sub 15-pin
  Visual 2 (Analog) : BNC (R,G,B,H/CS,V)*2
  Visual 3 (M-LINK) : MONITORLINK™
  Video : Visual 1 : RCA-pin
  Visual 2 : BNC
  Visual 3 : S-Video: DIN 4-pin
  DVD/HD/DTV : Visual 1 RCA-pin (Y,PB[CB},PR{CR])*1
  Visual 2 BNC (Y,PB[CB},PR{CR])*1*
  Audio : Stereo RCA x 3 (Selectable)
  External Control : D-sub 9-pin (RS232C)
- **Sound Output** : 7W+7W at 6 ohms
- **Dimensions** : (W)49.5" (H)30.2" (D)4.68"
  (W)1257 (H)766 (D)119 mm
- **Weight** : 98 lbs / 44.5 kg

***1 HD/DVD/DTV Input Signals supported:**

480P (60Hz)	480I (60Hz)
525P (60Hz)	525I (60Hz)
576P (50Hz)	576I (50Hz)
625P (50Hz)	625I (50Hz)
720P (60Hz)	1035I (60Hz)
1080I (50Hz)	1080I (60Hz)

***2 The 5-BNC connectors are used as RGB/PC2 and HD/DVD2 input. Select one of them under "BNC SELECT".**

- Weight and dimensions shown are approximate.
- Design specifications are subject to change without notice.

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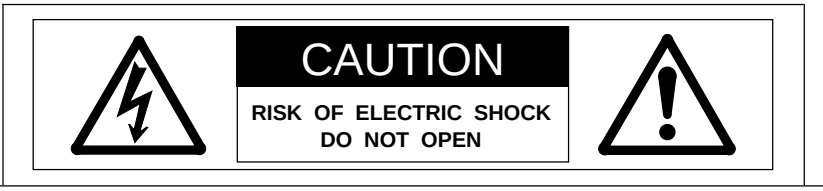
SAFETY PRECAUTIONS



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT OPEN REAR COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol warns the user that uninsulated voltage within the unit may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any part inside of this unit.

This symbol alerts the user that important literature concerning the operation and maintenance of this unit has been included.
Therefore, it should be read carefully in order to avoid any problems.

ATTENTION: POUR EVITER LES RISQUES D' ELECTROCUTION, NE PAS ENLEVER LE CONVERCLE ARRÈRE. AUCUN DES ELEMENTS INTERNES NE DOIT ETRE REPARE PAR L'UTILISATEUR. NE CONFIER L' ENTRETIEN QU'A UN PERSONNEL QUALIFIE.

L'éclair fléché dans un triangle équilatéral est destiné à avertir l'utilisateur de la présence, dans l'appareil, d'une zone non-isolée soumise à une haute tension dont l'intensité est suffisante pour constituer un risque d'électrocution.

Le point d'exclamation dans un triangle équilatéral est destiné à attirer l' attention de l'utilisateur sur la présence d'informations de founctionnement et d'entretien importantes dans la brochure accompagnant l'appareil.

WARNING
HEATSINK MAY BE ENERGIZED.
TEST BEFORE TOUCHING.

SAFETY PRECAUTIONS

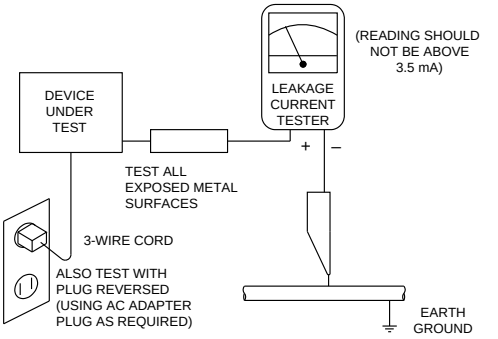
1. **Before returning an instrument to the customer**, always make a safety check of the entire instrument, including, but not limited to, the following items.

   a. Be sure that no built-in protective devices are defective and/or have been defeated during servicing. (1) Protective shields are provided on this chassis to protect both the technician and the customer. Correctly replace all missing protective shields, including any removed for servicing convenience. (2) When reinstalling the chassis and/or other assembly in the cabinet, be sure to put back in place all protective devices, including,but not limited to, nonmetallic control knobs,insulating fishpapers,adjustment and compartment covers/shields, and isolation resistor/capacitor networks. **Do not operate this instrument or permit it to be operated without all protective devices correctly installed and functioning.**

   b. Be sure that there are no cabinet openings through which an adult or child might be able to insert their fingers and contact a hazardous voltage. Such opening include,but are not limited to, (1) spacing between the picture tube and the cabinet mask, (2) excessively wide cabinet ventilation slots, and (3) an improperly fitted and/or incorrectly secured cabinet back cover.

   c. **Leakage Current Hot Check** — With the instrument completely reassembled,plug the AC line cord directly into a 240V AC outlet. (Do not use an isolation transformer during this test.) Use a leakage current tester or a metering system that complies with American National Standards Institutes (ANSI) C101.1 Leakage Current for Appliances and Underwriters Laboratories(UL) 1950. With the instrument AC switch first in the ON position and then in the OFF position, measure from a known earth ground (metal waterpipe, conduit,etc.) to all exposed metal parts of the instrument(antennas, handle bracket, metal cabinet, screwheads, metallic overlays, control shafts,etc.), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 3.5 milliamp. Reverse the instrument power cord plug in the outlet and repeat test.**ANY MEASUREMENTS NOT WITHIN THE LIMITS SPECIFIED HEREIN INDICATE A POTENTIAL SHOCK HAZARD THAT MUST BE ELIMINATED BEFORE RETURNING THE INSTRUMENT TO THE CUSTOMER.**

AC Leakage Test



2. Read and comply with all caution and safety-related notes on or inside the Monitor cabinet, on the Projection Monitor chassis, or on the picture tube.

3. **Design Alteration Warning** — Do not alter or add to the mechanical or electrical design of this unit. Design alterations and additions, including, but not limited to, circuit modifications and the addition of the items such as auxiliary audio and/or video output connections might alter the safety characteristics of this Monitor and create a hazard to the user. Any design alterations or additions will void the manufacturer's warranty and will make you,the servicer,responsible for personal injury or property damage resulting therefrom.

4. **Hot Chassis Warning — a.** Some MultiSync Monitor chassis are electrically connected directly to one conductor of the AC power cord and may be safely serviced without an isolation transformer only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC power source. To confirm that the AC power plug is inserted correctly, with an AC voltmeter measure between the chassis and a known earth ground. If a voltage reading in excess of 1.0V is obtained, remove and reinsert the AC power plug in the opposite polarity and again measure the voltage potential between the chassis and a known earth ground. **b.** Some Plasma chassis normally have 85V AC (RMS), between chassis and earth ground regardless of the AC plug polarity. These chassis can be safely serviced only with an isolation transformer inserted in the power line between the receiver and the AC power source, for both personnel and test equipment protection. **c.** Some Plasma chassis have a secondary ground systems in addition to the main chassis ground. This secondary ground system is not isolated from the AC power line. The two ground system are electrically separated by insulating material that must not be defeated or altered.

SAFETY PRECAUTIONS

5. Observe original lead dress. Take extra care to assure correct lead dress in the following areas: **a.** near sharp edges, **b.** near thermally hot parts—be sure that leads and components do not touch thermally hot parts, **c.** the AC supply, **d.** high voltage, and **e.** antenna wiring. Always inspect in all areas for pinched, out-of-place, or frayed wiring. Do not change spacing between components, and between components and the printed-circuit board. Check AC power cord for damage.

6. Components,parts, and/or wiring that appear to have overheated or are otherwise damaged should be replaced with components, parts, or wiring that meet original specifications. Additionally,determine the cause of overheating and/or damage and, if necessary, take corrective action to remove any potential safety hazard.

7. **PRODUCT SAFETY NOTICE** —Many MultiSync Monitor electrical and mechanical parts have special safety-related characteristics some of which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified in this service data by shading with a ⚠ mark on schematics and by shading or a ⚠ mark in the parts list. Use of a substitute replacement part that does not have the same safety characteristics as the recommended replacement part in this service data parts list might create shock, fire, and/or other hazards.

PRECAUTIONS DE SECURITE

1. Avant de remettre un appareil à un client, faire toujours d'abord un examen de sécurité de l'appareil en entier comprenant, mais ne s'y limitant pas les points cités ci-dessous:

a. Vérifier qu' aucun des dispositifs de protection ne soit défectueux ou n' ait été endommagé pendant les travaux.

(1) Les volets protecteurs sur ce châssis ont été montés pour protéger aussi bien le technicien que le client. Remplacer correctement tous les volets protecteurs manquants, aussi bien que ceux qui ont pu être enlevés pour la commodité des travaux.

(2) Quand vous remettez le châssis ou d'autres assemblages ensemble dans le coffret, vérifier qu' ont été remis à leur place tous les dispositifs de protection, comprenant mais ne s' y limitant point, les boutons de contrôle non-métalliques, les feuilles d'isolation, les couverture/volets de l'ajustement et du compartiment, et l'isolation des réseaux résistance/condensateur. **Ne pas travailler sur cet appareil ni permettre qu'y soit effectué un travail sans que tous les dispositifs de protection n' y soient correctement installés fonctionnants.**

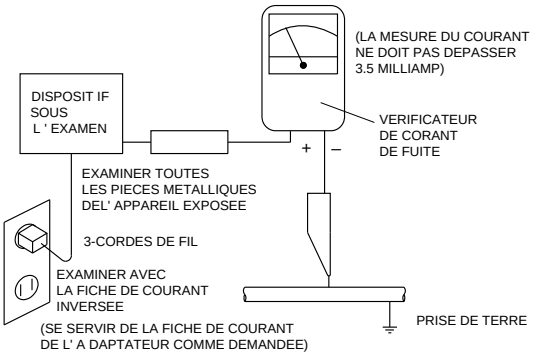
b. Bien vérifier qu'il n'y ait aucune ouverture sur le coffret qui ne puisse permettre à un adulte ou à un enfant d'y faire pénétrer ses doigts et attraper une décharge électrique.

De telles ouvertures comprendraient sans pour autant s'y limiter (1) l'espace entre le tube à images et le coffret de l'eppareil, (2) les espaces excessivement ouverts pour la ventilation et (3) la couverture arrière du coffret improprement fixée ou incorrectement protegée.

c. **Vérification de courant de fuite**

L'appareil ayant été complètement réassemblé, brancher-le à une prise de courant de 240V. (Ne pas se servir d'un transformateur d'isolation pendant ce test). Se servir d'un vérificateur de courant d'excitation ou d'un système de mesure conforme aux normes ANSI (American National Standards Institute) C101.1 Leakage Current for Appliances et U. L (Underwriters Laboratories) 1950. Le bouton de l'appareil en position "Marche" et ensuite en position "Arrêt", mesurer à partir d'une prise de terre (métallique tuyauterie, conduite, etc...) à toutes les pièces métalliques de l'appareil exposées (antennes, poignet métalliques, coffren métallique, tête des vis, surfaces métalliques, traits de contrôle, etc.) surtout à toutes les pièces métalliques exposées qui peuvent reconduire le courant au châssis. En aucun cas, la mesure du courant ne doit dépasser 3.5 milliamp. Inverser la fiche de courant de l'appareil dans la prise et répéter le test. **Tout mesurage ne s'arrêtant pas aux limites spécifiées icicomporte un risque de décharge électrique dangereux, qui doit être éliminé, avant que l'appareil ne soit remis au client.**

EXAMEN DE COURANT
D'EXCITATION



2. Lire et respecter toutes les mises en garde et notes de sécurité à l'intérieur ou à l'extérieur du coffret du rétro-projecteur, sur le châssis du rétro-projecteur ou sur le tube à images.

3. Mise en garde contre la modification du dessin

Ne pas modifier ni ajouter à la pièce mécanique ou électrique du modèle. Des modifications ou additions, comportant, mais ne s'y limitant pas, des modifications des circuits et l'addition d'éléments tels que des auxilliairs audio et/ou des branchements pour la prise de vidéo, pourrait éprouver la sécurité de ce rétro-projecteur et créer un risque pour l'utilisateur. Tout changement ou addition accomplie annulera la garantie du fabricant et va rendre votre service d'entretien, responsable des dommages corporels ou de biens en résultant.

4. Mise en garde contre le châssis sous tension

a. Certains châssis de rétro-projecteur sont électriquement reliés à un conducteur du fil de courant et ainsi peuvent ne comporter aucun risque sans un transformateur d'isolation seulement si la prise de courant est branchée, de manière que le châssis est relié à la prise de terre de la source de courant. Pour s'assurer que la prise de courant est correctement insérée, relever les mesures avec un voltmètre de courant entre le châssis et un point de prise de terre bien connu. Si le voltage indiqué est supérieur à 1,0V, débrancher et reinsérer la prise de courant dans la polarité contraire et une fois de plus remesurer le voltage potentiel entre le câssis et la prise de terre.

b. Certains châssis de moniteur ont habituellement 85V (RMS) entre le châssis et la prise de terre, en fonction de la polarité de la prise de courant. Ces châssis peuvent ne comporter aucun risque seulement avec un transformateur d'isolation inséré dans la ligne de puissance située entre de rétro-projecteur et la source d'électricité, cela pour la protection aussi bien du personnel que du matériel de vérfication.

c. Certains châssis de rétro-projecteur ont un système secondaire de masse en addition avec le système principal de masse du châssis. Ce système secondaire de masse n'est pas isolé du courant électrique. Les deux systèmes sont électriquement séparés par du matériel d'isolation qu' on vérifiera bien qu'il ne soit ni altéré ni défectueux.

5. Vérifier la couverture originale en plomb. Accorder la plus grande attention à la couverture de plomb notamment aux endroits ci-dessous indiqués.
   a. Près des bords aigus
   b. près des parties très chaudes
      Vérifier que les composants et les plombs ne touchent pas les parties très chaudes telles que:
   c. l'alimentation du courant
   d. la haute tension
   e. les fils de l'antenne

   Pousser l'inspection, à tous les endroits, à la recherche des cordes pincées, déplacées ou effilochées. Ne pas changer l'écartement entre composants, et entre composants et le tableau de circuit imprimé. Vérifier que le fil de conduite électrique est en bon état.

6. Les composants, parts (pièces) et/ou fils qui ont été trouvés surchauffés devraient être remplacés avec les composants, pièces et fils s'y reliant avec d'autre qui ont les mêmes spécifications que les originales. De plus, rechercher la cause du surchauffement et/ou des dommages et si nécessaire, prendre les mesures propres pour prévenir tout risque potentiel.

7. Note sur sûreté de l'appareil

Beaucoup de pièce de rétro-projecteur, qu'elles soient électriques ou mécaniques, ont des dispositions de sécurité qui ne sont pas toujours évidentes d'une simple inspection visuelle et la protection qu'elles donnent nécessairement ne pourront être pas obtenues par les remplaçants avec des composants aux voltages ou watts plus élevés.

Les pièces qui ont des caractéristiques particulières de sécurité sont identifiées avec un trait ⚠ marqué sur les schémas et sont ombragés ou comportent un trait ⚠ sur la liste des pièces. L'utilisation d'un produit substitutif qui n'aurait pas les mêmes caractéristiques comme il est recommandé dans ces données d'entretien pourrait provoquer une décharge électrique, un feu, et/ou d'autres dangers.

SAFETY PRECAUTIONS

1 . Cautions for disassembly

(1) For the wall-hang type

• During handling, try to support the set at its frame. Never touch the filter or glass surface. Assistant personnel on the front side should apply hands to the lower part of the casing. [If the casing receives an impact, the unseen side area of the module panel glass may be broken even though the module itself does not seem to have been broken. Therefore, support the frame by hand in order not to drop it.]

2. The least minimum cautions for product disassembly

• Secure a working space, arranged as wide as possible.
• Prior to disassembling the set, protect the acrylic surface with an air mat or the like.
• To prevent the thread ridges from being damaged, use an adequate screwdriver.
• Many screws are actually used. Therefore, use two or three containers where these screws can be kept . Never disassemble the inner parts of the module (pipes, etc.).
• When lifting the module from the set, two persons should stand on both sides of the module to hold the stable parts of the junction while they lift the module upright. (If dust or such foreign substance enters in between the module and the filter, moir* or similar problems can arise. In addition, once it enters, it is necessary to take careful measures not to damage the contamination area while removing contaminants.) [Please understand that the replacement of the module may call for an air-blast treatment (air brush) in a clean room.]
Complementary caution) In particular, if a conductive foreign matter (such as a metallic chip) is attached to the flexible cable of the module, there can be danger of the occurrence of a phenomenon like wire breakage that is caused by partition breakdown in the module. For this reason, it is necessary to bear in mind that the flow of air blast should be directed only in the predetermined direction at all times.

(Notes)

The component by the name of “module” used in this product is defined as a section that is provided with a digital circuit board (including high-voltage parts) used to emit light in the glass panel part, excluding the surface acrylic filter or the tempered glass filter. It must be noted that it does never mean the glass panel part only.

TROUBLESHOOTING

TROUBLESHOOTING

- In the case of abnormality in the POWER system, such as “No power available” or “Alarm (LED flashing)”
  Go to → **1. Power failure (P2)**

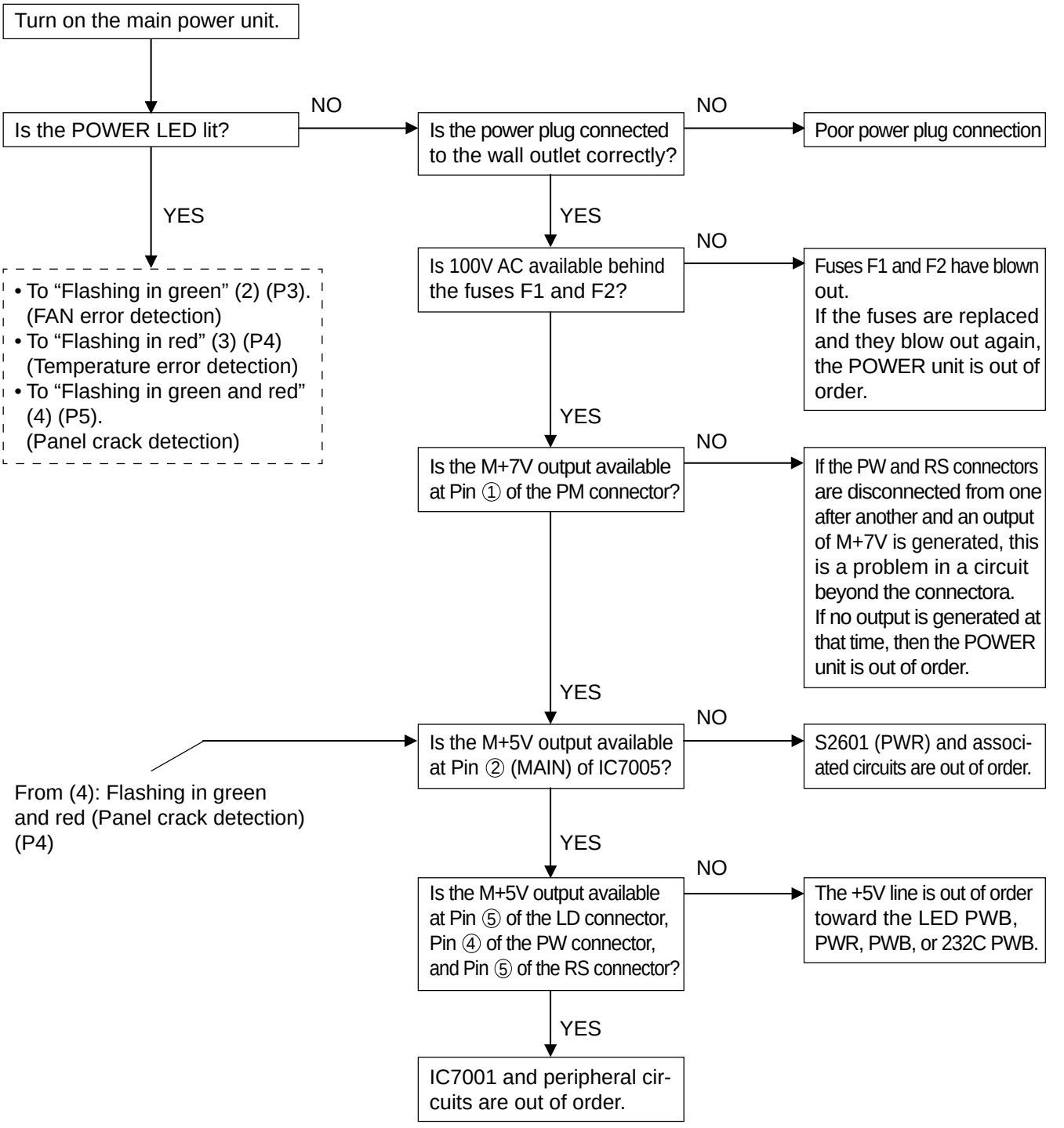
- In the case of abnormality in the VIDEO system, such as “No picture” or “Picture errors”
  Go to → **2. No picture displayed, picture errors (P6)**

- In the case of no audio output
  Go to → **3. No audio output generated (P15)**

If set shuts down, reset the microprocessor by pressing the <Power On> and <Input> keys on the front panel at the same time. Hold for 5 to 6 seconds.

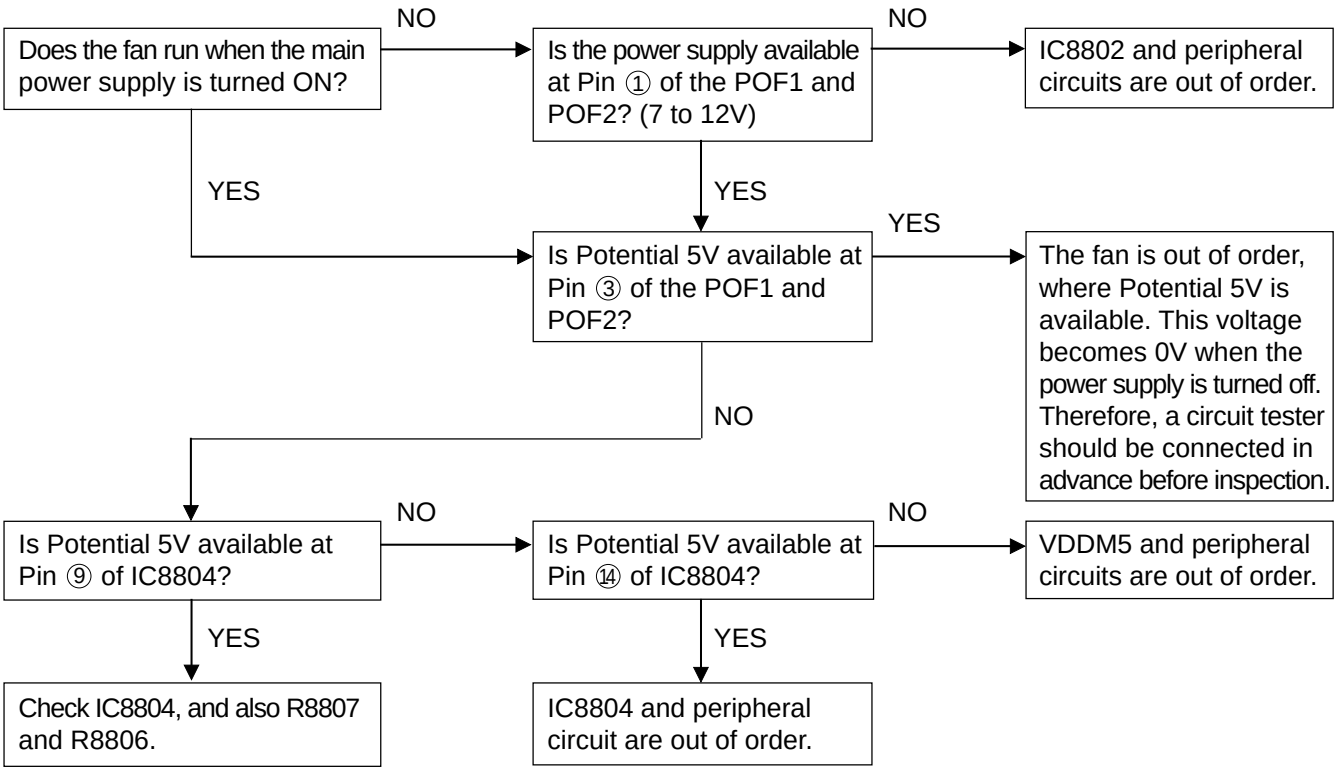
1. Power failure

(1) POWER is turned OFF. Note: To Reset the Microprocessor, Press and hold the <Power On> and <Input> keys on the front panel at the same time. Hold for 5 to 6 seconds.

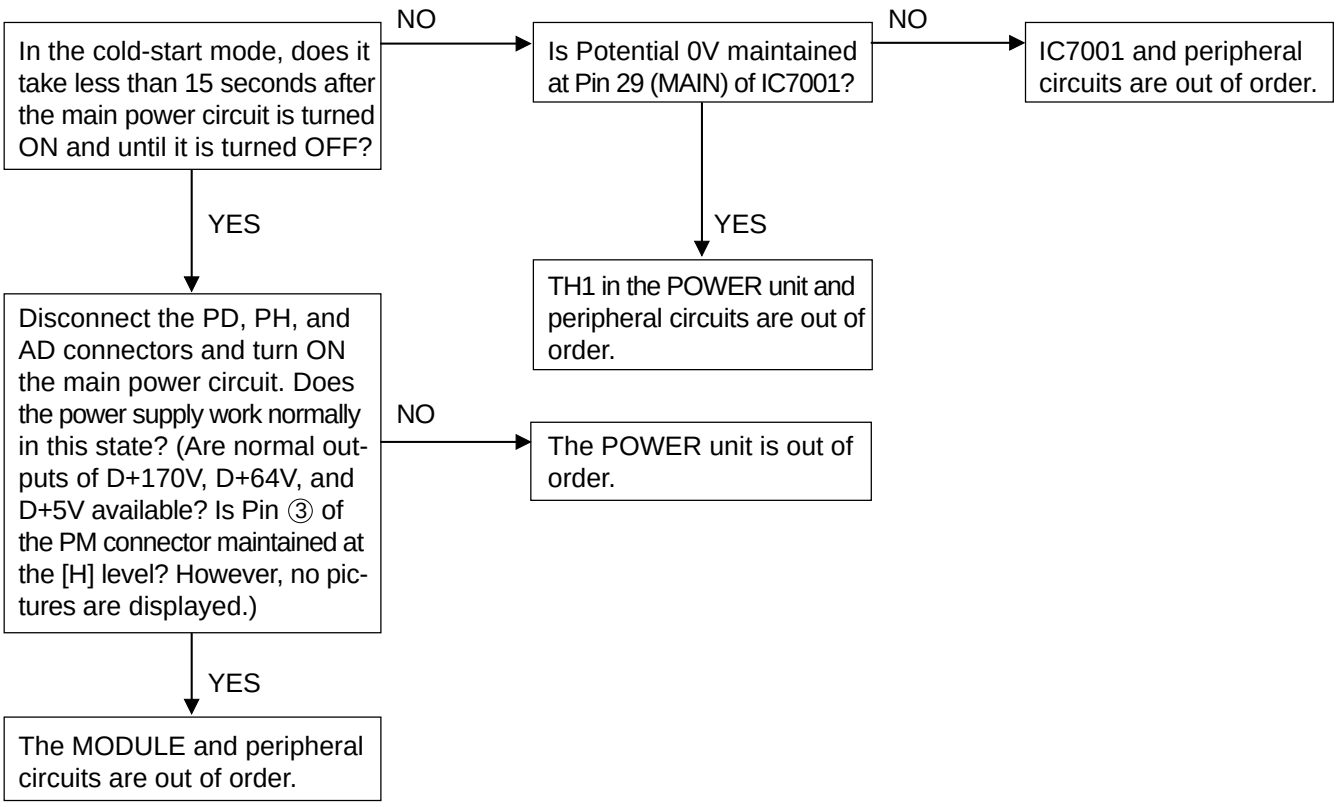

Turn on the main power unit.
Is the POWER LED lit?
NO
YES
Is the power plug connected to the wall outlet correctly?
NO
Poor power plug connection
YES
Is 100V AC available behind the fuses F1 and F2?
NO
Fuses F1 and F2 have blown out.
If the fuses are replaced and they blow out again, the POWER unit is out of order.
YES
Is the M+7V output available at Pin ① of the PM connector?
NO
If the PW and RS connectors are disconnected from one after another and an output of M+7V is generated, this is a problem in a circuit beyond the connectora.
If no output is generated at that time, then the POWER unit is out of order.
YES
• To “Flashing in green” (2) (P3). (FAN error detection)
• To “Flashing in red” (3) (P4) (Temperature error detection)
• To “Flashing in green and red” (4) (P5). (Panel crack detection)
From (4): Flashing in green and red (Panel crack detection) (P4)
Is the M+5V output available at Pin ② (MAIN) of IC7005?
NO
S2601 (PWR) and associated circuits are out of order.
YES
Is the M+5V output available at Pin ⑤ of the LD connector, Pin ④ of the PW connector, and Pin ⑤ of the RS connector?
NO
The +5V line is out of order toward the LED PWB, PWR, PWB, or 232C PWB.
YES
IC7001 and peripheral circuits are out of order.

(Caution) When the LED is flashing (protector in operation), all power lines other than M+7 are automatically turned off. When checking the power lines other than the M+7V system, a circuit tester or the like should be connected to the measuring point in advance, for confirmation.

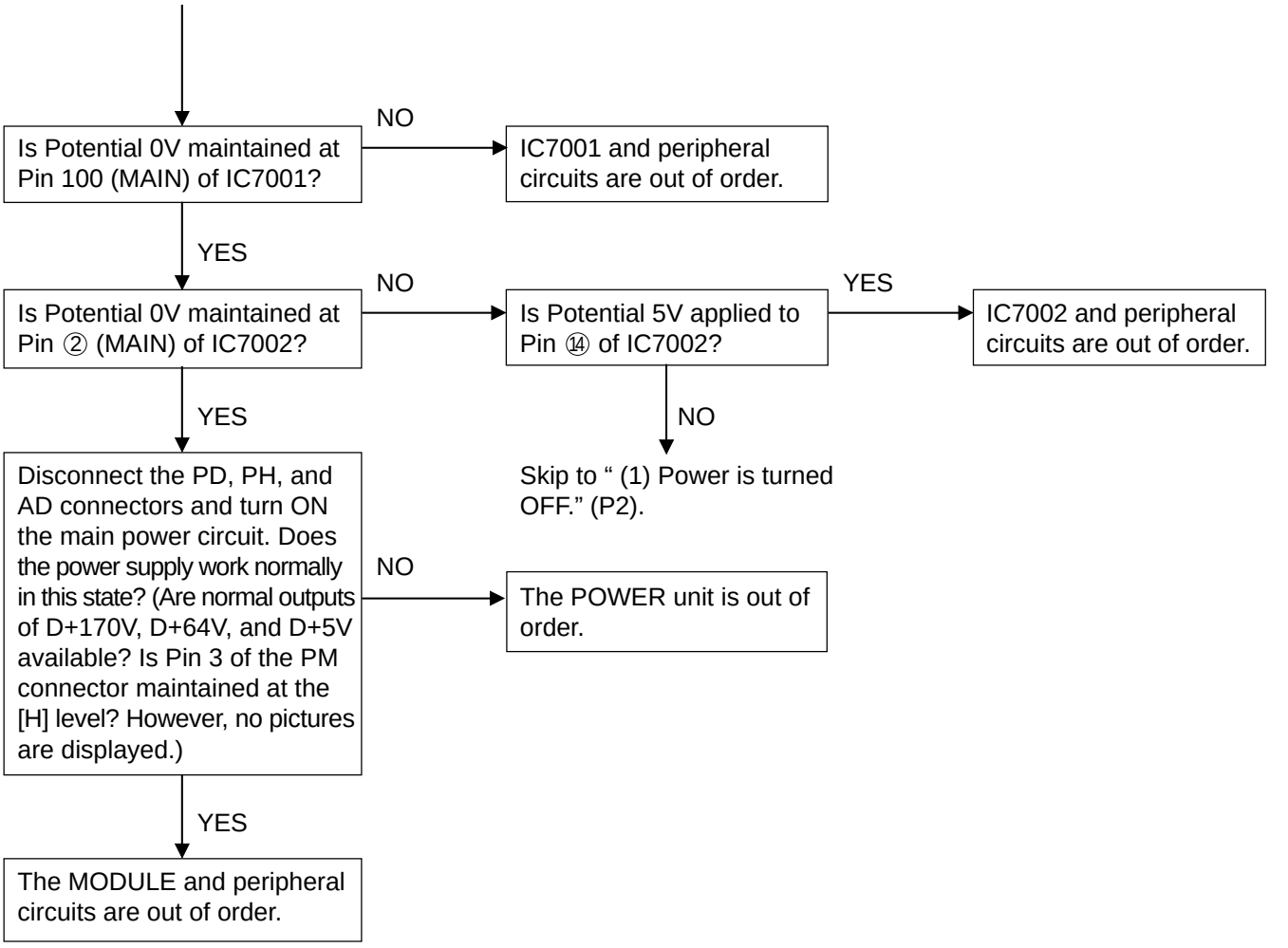
(2) Flashing in green (FAN error detection)


Does the fan run when the main power supply is turned ON?
NO
Is the power supply available at Pin ① of the POF1 and POF2? (7 to 12V)
NO
IC8802 and peripheral circuits are out of order.
YES
YES
Is Potential 5V available at Pin ③ of the POF1 and POF2?
YES
The fan is out of order, where Potential 5V is available. This voltage becomes 0V when the power supply is turned off. Therefore, a circuit tester should be connected in advance before inspection.
NO
Is Potential 5V available at Pin ⑨ of IC8804?
NO
Is Potential 5V available at Pin ⑭ of IC8804?
NO
VDDM5 and peripheral circuits are out of order.
YES
YES
Check IC8804, and also R8807 and R8806.
IC8804 and peripheral circuit are out of order.

(3) Flashing in red (Temperature error detection)


In the cold-start mode, does it take less than 15 seconds after the main power circuit is turned ON and until it is turned OFF?
NO
Is Potential 0V maintained at Pin 29 (MAIN) of IC7001?
NO
IC7001 and peripheral circuits are out of order.
YES
YES
TH1 in the POWER unit and peripheral circuits are out of order.
Disconnect the PD, PH, and AD connectors and turn ON the main power circuit. Does the power supply work normally in this state? (Are normal outputs of D+170V, D+64V, and D+5V available? Is Pin ③ of the PM connector maintained at the [H] level? However, no pictures are displayed.)
NO
The POWER unit is out of order.
YES
The MODULE and peripheral circuits are out of order.

(4) Flashing in green and red (Panel crack detection)


Is Potential 0V maintained at Pin 100 (MAIN) of IC7001?
NO
IC7001 and peripheral circuits are out of order.
YES
Is Potential 0V maintained at Pin ② (MAIN) of IC7002?
NO
Is Potential 5V applied to Pin ⑭ of IC7002?
YES
IC7002 and peripheral circuits are out of order.
YES
NO
Skip to " (1) Power is turned OFF." (P2).
Disconnect the PD, PH, and AD connectors and turn ON the main power circuit. Does the power supply work normally in this state? (Are normal outputs of D+170V, D+64V, and D+5V available? Is Pin 3 of the PM connector maintained at the [H] level? However, no pictures are displayed.)
NO
The POWER unit is out of order.
YES
The MODULE and peripheral circuits are out of order.

(Caution) How to cancel the alarm condition:

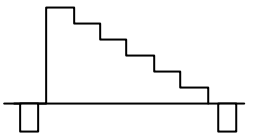
- While flashing in green and red occurs, the power supply cannot be reset by ON/OFF operation at the main power switch, remote control, and wall outlet.
- For alarm resetting, keep pressing the input selector key at the main unit of the set and move the mains power switch to [ON] at the main unit. In this state, it is necessary to keep pressing the input selector key of the main unit for more than 2 seconds.

2. No picture displayed and picture errors

(Caution) IPXXXX is installed in the MAIN PWB and the VIDEO PWB. These components are inserted in the power line. If there is any error occurring in the circuit, these components function to prevent the evolution of this problem to other areas. Accordingly, check whether the same voltage is generated at both ends of each component. (In normal state, the component is internally short-circuited.) If the same voltage is not generated, this means that the MAIN PWB is out of order. The same check is needed also for the DSP PWB.

(1) No picture display of the PC signal only or both the VIDEO and PC signals

Enter an input of XGA69H gray scale in the input circuit of PC1, and select PC INPUT 1.



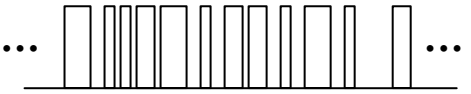
Is ON-screen display available?

NO → To “No presentation of pictures and ON-screen display” (P11)

YES

Is a signal of 3Vp-p available at at the signal input pins of IC8701 and IC8702? (Signale names: REV_ LVDS, RODD_LVDS, ets.)

YES → The MAIN PWB of the AD connector is out of order.

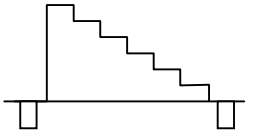


NO

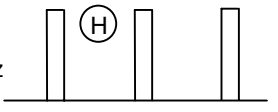
Is a signal of 0.7Vp-p available at Pins 1, 3, 5 of the PC connector and a sync signal of 5Vp-p available at Pins 7, 9, 10, 12?

YES → The MAIN PWB is out of order.

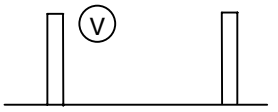
1, 3, 5



7, 10
45kHz



9, 12
60Hz

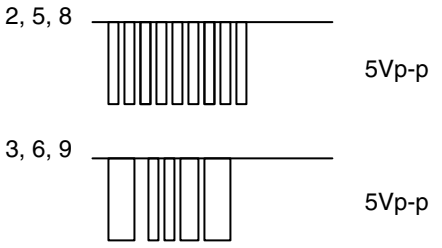


NO

(1)-1 (P7)

(1)-1 (P6)

Are the signals below available at Pins 2, 5, 8, 3, 6, and 9 of the BU connector?



YES

Are the specified voltages available at the PV connector?
Pin 1 14Vdc
Pin 3 5Vdc
Pin 5 6Vdc
Pin 7 7Vdc

YES

The VIDEO PWB is out of order.

NO

NO

Are the specified voltages available at the connectors below? (Power source check)

Connector name	Pin No.	Voltage
PN	1	3.3Vdc
PM	1	7Vdc
	7	5Vdc
	9	14Vdc

YES

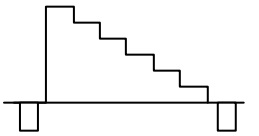
The MAIN PWB is out of order.

NO

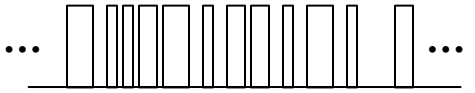
The POWER unit is out of order.

(2) No picture display of the VIDEO signal only

Enter an input of gray scale in the input circuit of VIDEO1, and select VIDEO1.



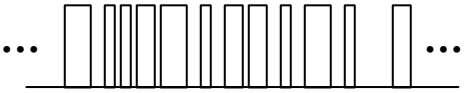
Is a signal of about 3Vp-p available at any of Pins 21 to 79 of the AM connector in the DSP PWB (GND terminal excluded)?



YES → The MAIN PWB is out of order.

NO

Is a signal of about 3Vp-p available at any of Pins 101 to 159 of the AM connector in the DSP PWB (GND terminal excluded)?



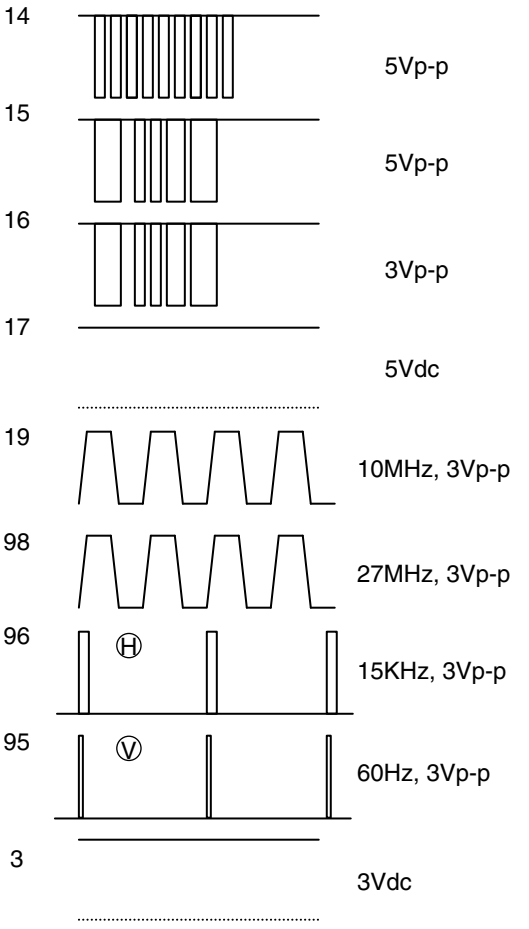
NO → The MAIN PWB is out of order.

YES

(2)-1 (P9)

(2)-1 (P8)

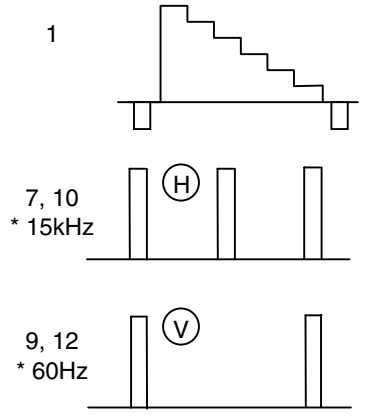
Are the signals below available at Pins 14 to 17, 19, 98, 96, 95, and Pin 3 (IP8001) of the AM connector in the DSP PWB?



YES → The DSP PWB is out of order.

NO

Is a signal of 1Vp-p available at Pin 1 of the YU connector, and a sync signal of 5Vp-p available at Pins 7, 9, 10, and 12?



YES → The MAIN PWB is out of order.

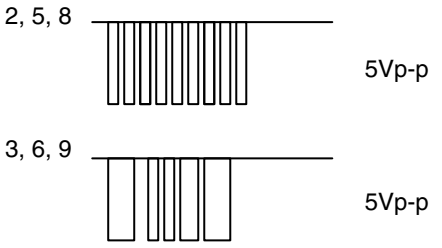
* In case of an NTSC input.

NO

(2)-2 (P10)

(2)-2 (P9)

Are the signals below available at Pins 2, 5, 8, 3, 6, and 9 of the BU connector?



YES

Are the specified voltages available at the PV connector?
Pin 1 14Vdc
Pin 3 5Vdc
Pin 5 6Vdc
Pin 7 7Vdc

YES

The VIDEO PWB is out of order.

NO

NO

Are the specified voltages available at the connectors below? (Power source check)

Connector name	Pin No.	Voltage
PN	1	3.3Vdc
PM	1	7Vdc
	7	5Vdc
	9	14Vdc

YES

The MAIN PWB is out of order.

NO

The POWER unit is out of order.

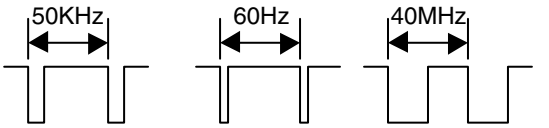
No presentation of pictures and ON-screen display (P6)

Are pulses of 3Vp-p available at Pins 38, 39, and 40 of the AD connector?

NO

YES

Are the horizontal/vertical sync signals of 3Vp-p available at Pins 27/28 of IC8701, and a clock signal at Pin 31?



NO

YES

Are the signals of 3Vp-p (signal name: REV_LVDS, RODD_LVDS, etc.) available at the signal input pin of IC8701?

NO

YES

Is normal display available when the AD, PD, or PH cable is replaced?

YES → Each cable is defective.

NO

Is normal display available when the MAIN PWB is replaced?

YES → The MAIN PWB is out of order.

NO

Are 170V, 64V, and D+5V of the POWER unit normally output?

NO → See “Power cannot be ON.”

YES

The plasma display module is out of order.

Are the specified voltages available at the connectors below? (Power source check)

YES → The MAIN PWB is out of order.

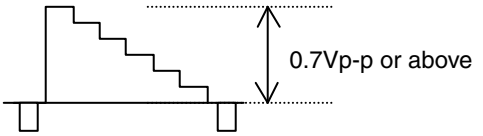
Connector name	Pin No.	Voltage
PN	1	3.3Vdc
PM	1	7Vdc
	7	5Vdc
	9	14Vdc

NO

The POWER unit is out of order.

(3) Picture errors

Display a picture in error mode. However, the video signal level shall be maintained above 0.7Vp-p.



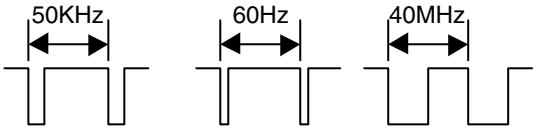
YES

Are pulses of 3Vp-p available at Pins 38, 39, and 40 of the AD connector?

NO

YES

Are the horizontal/vertical sync signals of 3Vp-p available at Pins 27/28 of IC8701, and a clock signal at Pin 31?



NO

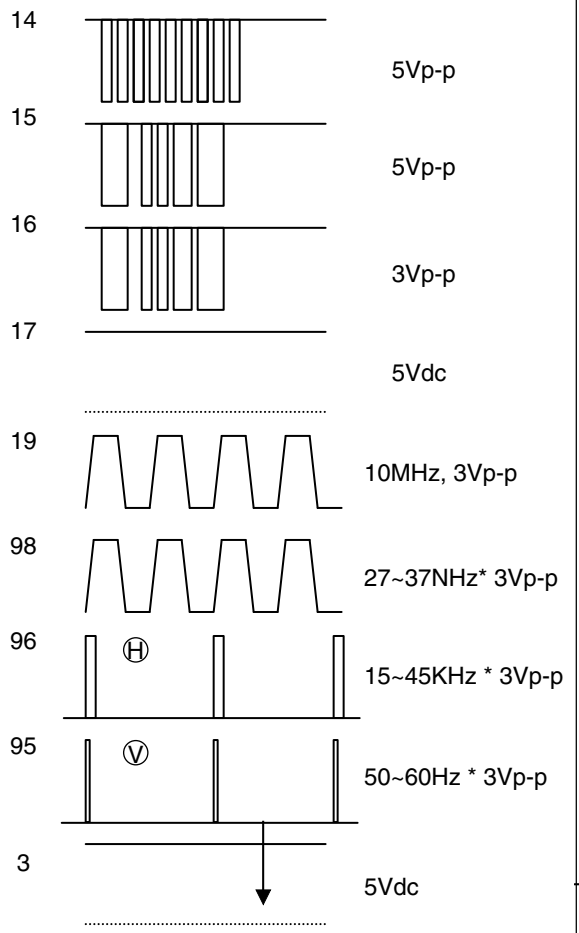
YES

Is a picture error caused by PC input?

YES

NO

Are the signals below available at Pins 14 to 17, 19, 98, 96, and 95 of the AM connector and at Pin 3 (IP8001) in the DSP PWB?



NO

Are the specified voltages available at the connectors below?
(Power source check)

Connector name	Pin No.	Voltage
PN	1	3.3Vdc
PM	1	7Vdc
	7	5Vdc
	9	14Vdc

YES

The MAIN PWB is out of order.

NO

The POWER unit is out of order.

* Changed according to the input signal.

YES

(3)-1 (P13)

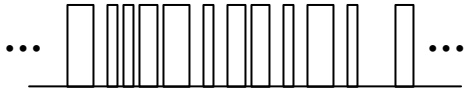
(3)-1 (P12)

Does this phenomenon correspond to “Specific gradations (brightness) are tinted.”?

NO

YES

Are the signals of 3Vp-p (signal name: REV_ LVDS, RODD_LVDS, etc.) available at all the signal input pin of IC8701 and IC8702?

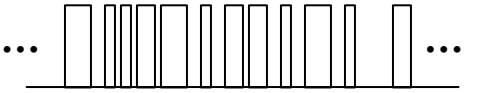


YES

(3)-2 (P14)

NO

Is a signal of about 3Vp-p available at all Pins 21 to 79 of the AM connector (GND terminals excluded) in the DSP PWB?

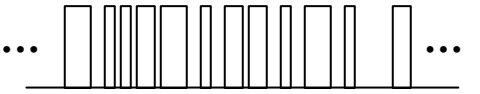


YES

The MAIN PWB is out of order.

NO

Is a signal of about 3Vp-p available at all Pins 101 to 159 of the AM connector (GND terminal excluded) in the DSP PWB?



YES

The DSP PWB is out of order.

NO

Are the specified voltages available at the connectors below? (Power source check)

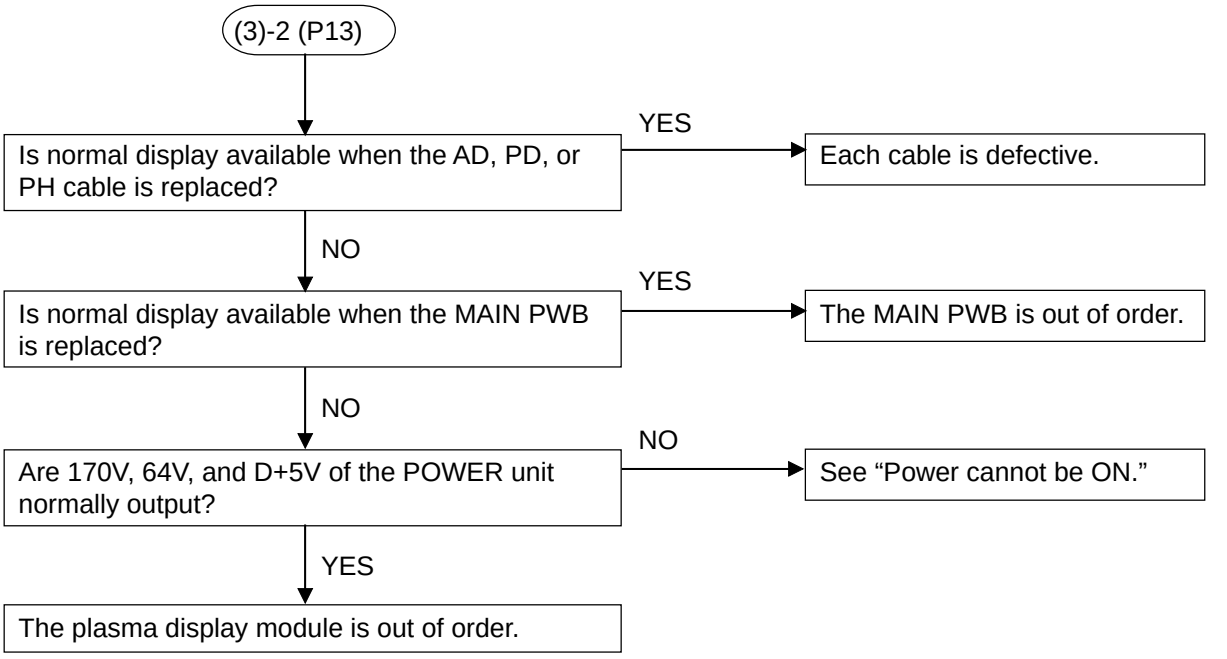
Connector name	Pin No.	Voltage
PN	1	3.3Vdc
PM	1	7Vdc
	7	5Vdc
	9	14Vdc

YES

The MAIN PWB is out of order.

NO

The POWER unit is out of order.


(3)-2 (P13)
Is normal display available when the AD, PD, or PH cable is replaced?
YES
Each cable is defective.
NO
Is normal display available when the MAIN PWB is replaced?
YES
The MAIN PWB is out of order.
NO
Are 170V, 64V, and D+5V of the POWER unit normally output?
NO
See “Power cannot be ON.”
YES
The plasma display module is out of order.

3. No audio output generated

Note) This model is enabled to set up an audio input terminal for each video input terminal. No audio output is available unless the input terminal of the displayed pictures (example: VIDEO 1) coincides with that of audio (example: RGB 3). Therefore, analysis for troubleshooting should be carried out after the displayed video input terminal (example: VIDEO 1) has been made to coincide with the audio input terminal according to the instruction manual.

Enter a signal input in AUDIO IN.

↓

Is the audio signal present at the speaker OUT? → YES → Speaker or cable is defective.

↓ NO

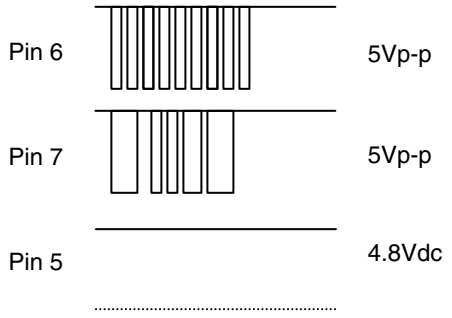
Are the voltages specified below available at the PA connector of the AUDIO unit? → YES → The POWER unit or the cable is out of order.
(Power source check)

Pin	Signal name	Voltage
1	S+24	+23.5~33Vdc
2	S+24	+23.5~33Vdc
3	S.GND	GND
4	S.GND	GND
5	A+13	+13Vdc
6	A.GND	GND

(Note) When confirming the source voltage by disconnecting the PA connector, short-circuit the section between Pins ③ ④ of the PA connector and Pin ⑥ (like short-circuiting between S.GND of the POWER unit), and then turn on the POWER unit.

↓ YES

Are the following waveforms observed at the AU connector of the AUDIO unit? → NO → The MAIN PWB or the cable is out of order.



Pin 1, 2 : Audio signal waveforms

↓ YES

The AUDIO unit is out of order.

METHOD OF ADJUSTMENTS

Adjusting conditions

Adjustments should be carried out in accordance with the procedures described below. However, any adjustments other than the items A & B below are not required.

A. When the [PDP module] is replaced, adjust the sections according to the adjusting items [1 to 3] specified below.

(Caution) When the PDP module has been replaced, clear the USAGE TIME to “0” without fail, according to “how to clear the usage time” shown below.

B. When the [POWER unit] is replaced, adjust the sections according to the adjusting items [1 to 3] specified below.

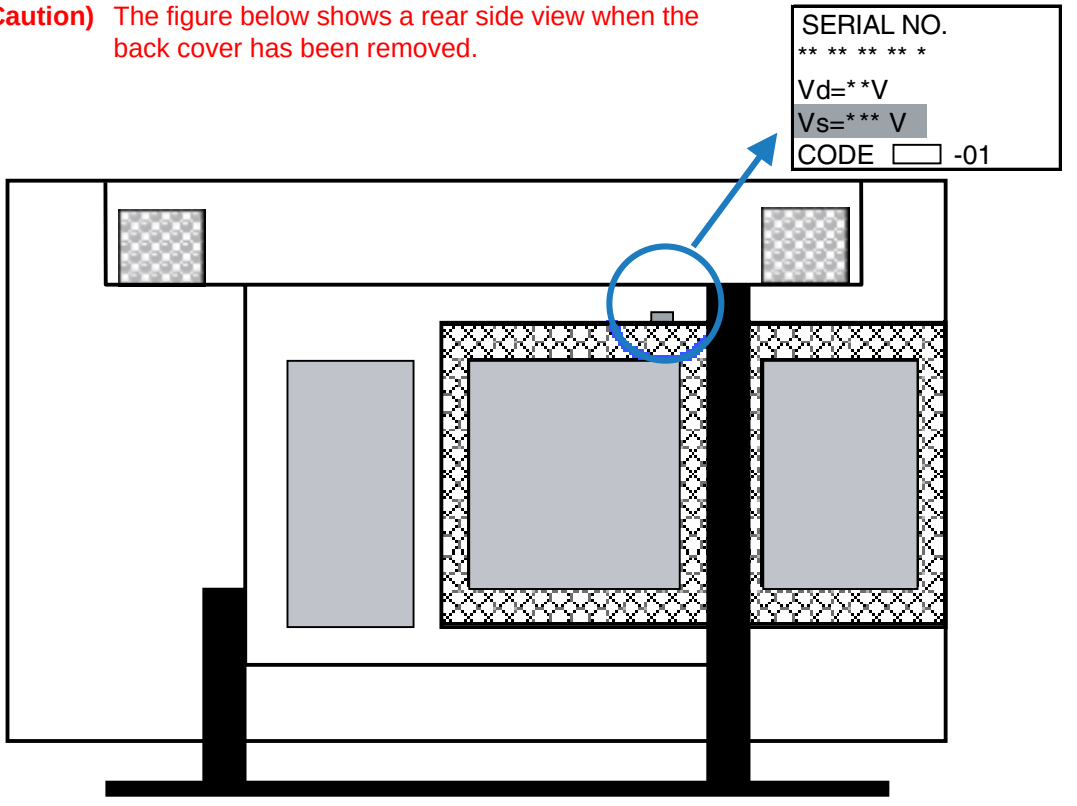
* **How to clear the usage time**
Assume the following factory mode by the use of the remote control. Press [MENU/ENTER] key six times to get the screen [USAGE TIME]. In this state, the integrated time up to the present time is displayed.
The integrated time is cleared to [0] when the remote control keys are pressed in the order of [MUTE] → cursor keys [Λ]→ cursor keys [V] → [SLEEP].

1. Adjustment of +170V

(1) Using any video signal of VIDEO input, DVD/HD input, or RGB input, and display a color bar signal. Turn on the power switch of the main unit.

(2) Turn the volume control (RV3) in the [D+170V ADJ] section of the power unit, and adjust the voltage value between TP3 (D+170V output) and TP2 (D.GND) of the power unit so that this voltage settles within the range of “specified voltage of the PDP module (Value Vs on the label shown below) ± 1V.”

(Caution) The figure below shows a rear side view when the back cover has been removed.



2. Adjustment of +64V

(1) Using any video signal of VIDEO input, DVD/HD input, or RGB input, and display a color bar signal. Turn on the power switch of the main unit.

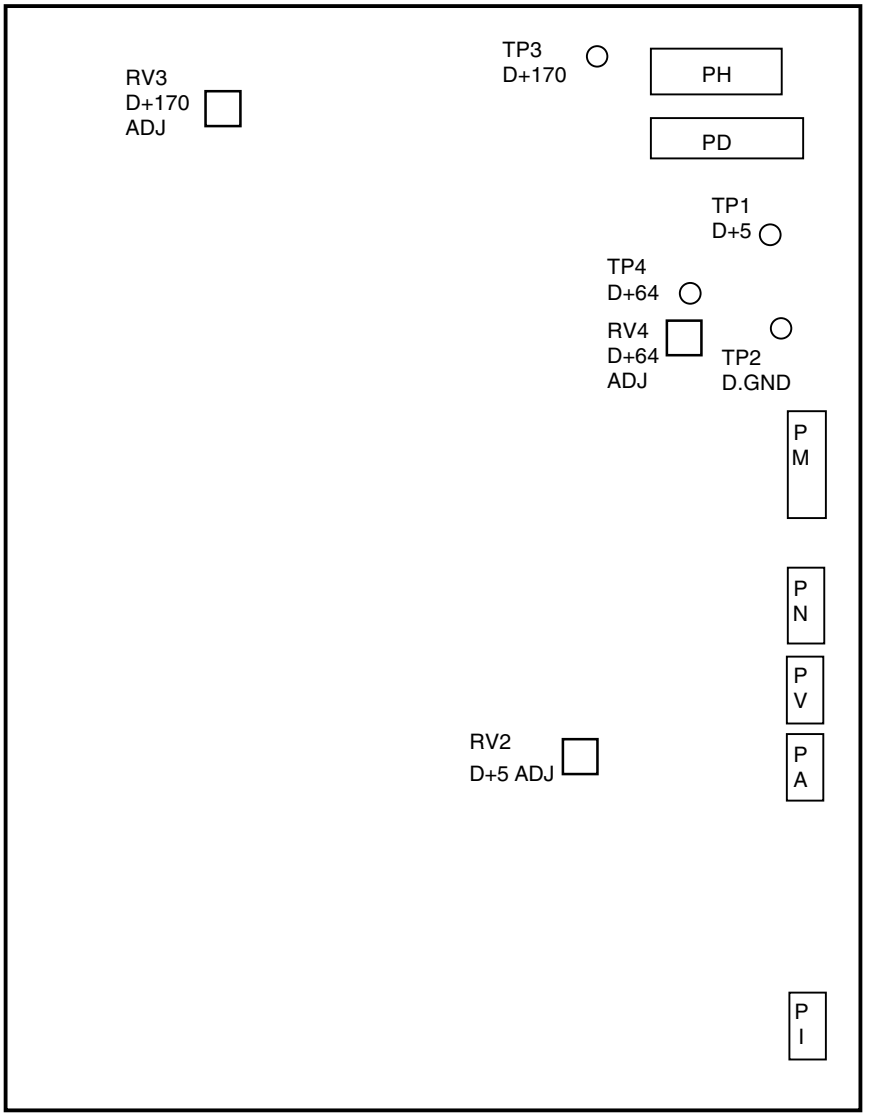
(2) Confirm that the voltage at TP4 (D+60V output) and TP2 (D.GND) of the power unit is maintained at a voltage value (Vd value of the label described in Item 1 above) within ± 1V, specified for the PDP module.
If the voltage specified above cannot be secured, turn the volume control (RV4) in the [D+64V ADJ] block and adjust the voltage until it attains "the voltage specified for the PDP module (Value Vd on the label of the above-mentioned Item 1) ± 1V."

3. Adjustment of +5V

(1) Use any video signal of VIDEO input, DVD/HD input, or RGB input, and display a color bar signal.

(2) Confirm that the voltage value between TP1 (+5V output) and TP2 (D.GND) of the power unit is maintained at "5.10 ± 0.1V."
If the voltage specified above cannot be secured, turn the volume control (RV2) in the [D+5V ADJ] block and adjust the voltage until it attains "5.10 ± 0.1V."

* POWER unit layout



[Morgue]

1. Signal Generator

(1) Digital RGB and component signal generator
- Equivalent to the Video Generator LT1615 (made by LEADER)
- Equivalent to the Panel Adapter LT9217 (made by LEADER)
- Equivalent to the Video Encoder LT1606 (made by LEADER)

(2) NTSC signal generator
- Equivalent to the NTSC Pattern Generator LCG-403YC (made by LEADER)

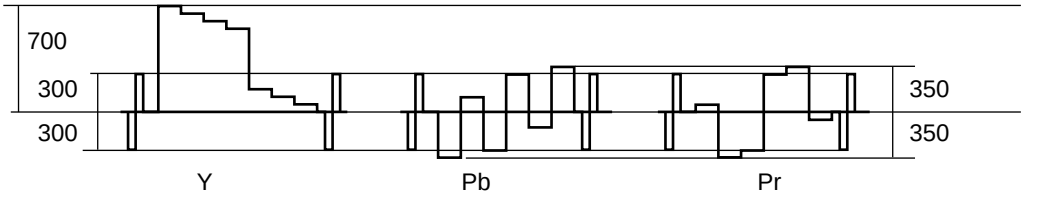
(3) PAL signal generator
- Equivalent to the Color Bar Pattern Generator PM5518 (made by PHILIPS)

2. VIDEO input

Input: Composite video input or S-terminal input for one system

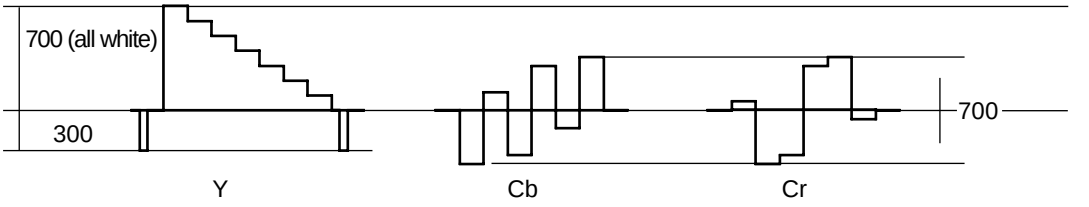
3. DVD/HD/DTV input

3-1. HD: Y/Pb/Pr component input, tri-sync signal



100% color bar signal (mVp-p)

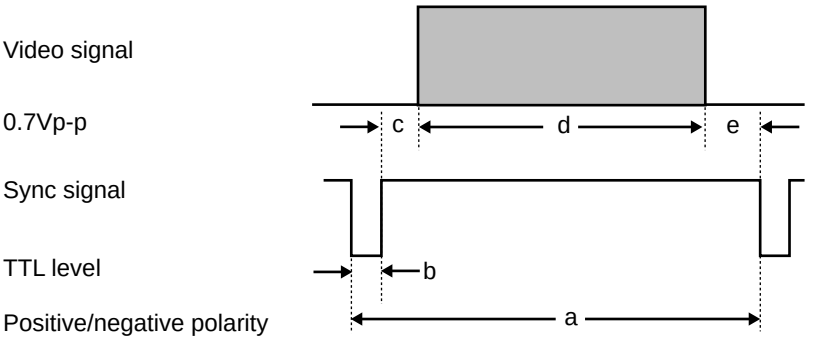
3-2. DVD: Y/B-Y/R-Y component input



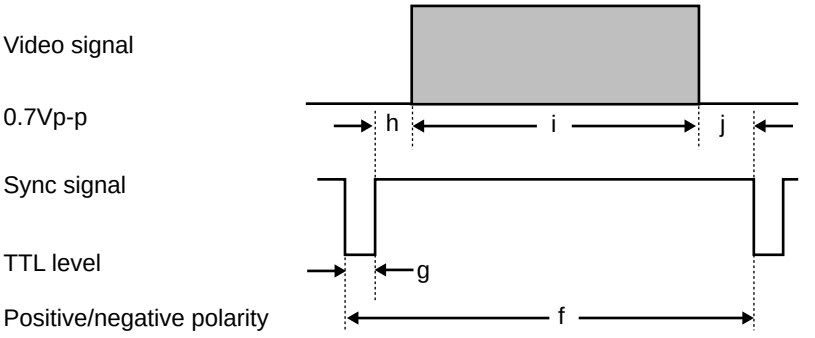
75% color bar signal (mVp-p)

4. RGB/PC input

1) Horizontal sync period



(2) Vertical sync period



* The data a to j above are specified in the next page and thereafter, classified for various inspection signals.

5. RGB/PC signal timing table

PC mode	1	2	3	4	5
Signal name	VU-6010 NTSC	VU-6010 PAL/SECAM	PC98 400@56Hz	IBM 400@70Hz	PC98 480@60HZ
Definition	640*240	768*288	640*400	640*400	640*480
Dot clock frequency (MHz)	12.214	14.752	21.053	25.175	25.175
H frequency (kHz)	15.734	15.557	24.826	31.469	31.469
V frequency (Hz)	59.94	50.39	56.423	70.086	59.94
H total (uS)	63.534	64.262	40.285	31.778	31.778
(dots)	776	948	848	800	800
H display period (uS)	52.4	52.06	30.4	25.422	25.422
(dots)	640	768	640	640	640
H front porch (uS)	1.146	1.288	2.803	0.675	0.596
(dots)	14	19	59	17	15
H sync pulse width (uS)	8.76	8.677	3.04	2.542	3.813
(dots)	107	128	64	64	96
H back porch (uS)	1.228	2.237	4.037	3.138	1.946
(dots)	15	33	85	79	49
V total (mS)	16.652	20.055	17.723	14.268	16.683
(line)	262	312	440	449	525
V display period (mS)	15.3	18.513	16.112	12.711	15.253
(line)	240	288	400	400	480
V front porch (mS)	0.191	0.321	0.282	0.413	0.191
(line)	3	5	7	13	6
V sync pulse width (mS)	1.144	1.093	0.322	0.064	0.064
(line)	18	17	8	2	2
V back porch (mS)	0.064	0.064	1.007	1.08	1.176
(line)	1	1	25	34	37
H sync polarity	Neg	Neg	Neg	Neg	Neg
V sync polarity	Neg	Neg	Neg	Neg	Neg
Scan type	Interlaced	Interlaced	Non Interlaced	Non Interlaced	Non Interlaced

PC mode	6	7	8	9	10
Signal name	MAC@13”	VESA 480@72Hz	VESA 480@75Hz	VESA 480@85Hz	XGA-2 480@75HZ
Definition	640*480	640*480	640*480	640*480	640*480
Dot clock frequency (MHz)	30.24	31.5	31.5	36.0	31.5
H frequency (kHz)	35	37.861	37.5	43.269	39.375
V frequency (Hz)	66.667	72.809	75	85.008	75
H total (uS)	28.571	26.413	26.667	23.111	25.4
(dots)	864	832	840	832	800
H display period (uS)	21.164	20.317	20.317	17.778	20.32
(dots)	640	640	640	640	640
H front porch (uS)	2.116	0.762	0.508	1.556	0.508
(dots)	64	24	16	56	16
H sync pulse width (uS)	2.116	1.27	2.032	1.556	3.048
(dots)	64	40	64	56	96
H back porch (uS)	3.175	4.064	3.81	2.222	1.524
(dots)	96	128	120	80	48
V total (mS)	15	13.735	13.333	11.764	13.333
(line)	525	520	500	509	525
V display period (mS)	13.714	12.678	12.8	11.093	12.19
(line)	480	480	480	480	480
V front porch (mS)	0.086	0.237	0.027	0.023	0.279
(line)	3	9	1	1	11
V sync pulse width (mS)	0.086	0.079	0.08	0.069	0.051
(line)	3	3	3	3	2
V back porch (mS)	1.114	0.739	0.427	0.578	0.813
(line)	39	28	16	25	32
H sync polarity	Sync on G	Neg	Neg	Neg	Neg
V sync polarity	Sync on G	Neg	Neg	Neg	Neg
Scan type	Non Interlaced	Non Interlaced	Non Interlaced	Non Interlaced	Non Interlaced

PC mode	11	12	13	14	15
Signal name	VESA 600@56Hz	VESA 600@60Hz	VESA 600@72Hz	VESA 600@75Hz	VESA 600@85Hz
Definition	800*600	800*600	800*600	800*600	800*600
Dot clock frequency (MHz)	36	40	50	49.5	56.25
H frequency (kHz)	35.156	37.879	48.077	46.875	53.674
V frequency (Hz)	56.25	60.317	72.188	75	85.061
H total (uS)	28.444	26.4	20.8	21.333	18.631
(dots)	1024	1056	1040	1056	1048
H display period (uS)	22.222	20	16	16.162	14.222
(dots)	800	800	800	800	800
H front porch (uS)	0.667	1	1.12	0.323	0.569
(dots)	24	40	56	16	32
H sync pulse width (uS)	2	3.2	2.4	1.616	1.138
(dots)	72	128	120	80	64
H back porch (uS)	3.556	2.2	1.28	3.232	2.702
(dots)	128	88	64	160	152
V total (mS)	17.778	16.579	13.853	13.333	11.756
(line)	625	628	666	625	631
V display period (mS)	17.067	15.84	12.48	12.8	11.179
(line)	600	600	600	600	600
V front porch (mS)	0.028	0.026	0.77	0.021	0.019
(line)	1	1	37	1	1
V sync pulse width (mS)	0.057	0.106	0.125	0.064	0.056
(line)	2	4	6	3	3
V back porch (mS)	0.626	0.607	0.478	0.448	0.503
(line)	22	23	23	21	27
H sync polarity	Pos.	Pos.	Pos.	Pos.	Pos.
V sync polarity	Pos.	Pos.	Pos.	Pos.	Pos.
Scan type	Non Interlaced	Non Interlaced	Non Interlaced	Non Interlaced	Non Interlaced

PC mode	16	17	18	19	20
Signal name	MAC@16”	I/O dater wide	CEREB wide 1	VESA wide (NEC 1)	VESA wide (NEC 2)
Definition	832*624	852*480	864*480	848*480	1024*576
Dot clock frequency (MHz)	57.2832	34.006	42.526	33.75	47.25
H frequency (kHz)	49.725	31.722	37.5	31.02	35.795
V frequency (Hz)	74.55	59.966	75	60	60.059
H total (uS)	20.111	31.524	26.667	32.237	27.937
(dots)	1152	1072	1134	1088	1320
H display period (uS)	14.524	25.055	20.317	25.126	21.672
(dots)	832	852	864	848	1024
H front porch (uS)	0.559	0.659	0.508	0.474	0.339
(dots)	32	22	22	16	16
H sync pulse width (uS)	1.117	3.764	2.032	3.319	3.048
(dots)	64	128	86	112	144
H back porch (uS)	3.91	2.047	3.81	3.319	2.878
(dots)	224	70	162	112	136
V total (mS)	13.414	16.676	13.333	16.667	16.65
(line)	667	529	500	517	596
V display period (mS)	12.549	15.132	12.8	15.474	16.091
(line)	624	480	480	480	576
V front porch (mS)	0.02	0.378	0.027	0.193	0.056
(line)	1	12	1	6	2
V sync pulse width (mS)	0.06	0.095	0.08	0.258	0.112
(line)	3	3	3	8	4
V back porch (mS)	0.784	1.072	0.427	0.741	0.391
(line)	39	34	16	23	14
H sync polarity	Sync on G	Neg	Pos.	Pos.	Pos.
V sync polarity	Sync on G	Neg	Neg	Pos.	Pos.
Scan type	Non Interlaced	Non Interlaced	Non Interlaced	Non Interlaced	Non Interlaced

PC mode	21	22	23	24	25
Signal name	VESA wide (NEC 3)	VESA wide (NEC 4)	CEREB wide 2	VESA 768@60Hz	VESA 768@70Hz
Definition	1280*720	1360*768	1024*600	1024*768	1024*768
Dot clock frequency (MHz)	76.5	85.5	51.2	65	75
H frequency (kHz)	45.106	47.712	37.879	48.363	56.476
V frequency (Hz)	60.142	60.015	60.317	60.004	70.069
H total (uS)	22.17	20.959	26.4	20.677	17.707
(dots)	1696	1792	1352	1344	1328
H display period (uS)	16.732	15.906	20	15.754	13.653
(dots)	1280	1360	1024	1024	1024
H front porch (uS)	0.627	0.749	1	0.369	0.32
(dots)	48	64	51	24	24
H sync pulse width (uS)	2.301	1.310	3.2	2.092	1.813
(dots)	176	112	164	136	136
H back porch (uS)	2.51	2.994	2.2	2.462	1.92
(dots)	192	256	113	160	144
V total (mS)	16.627	16.662	15.579	16.666	14.272
(line)	750	795	628	806	806
V display period (mS)	15.962	16.097	15.84	15.88	13.599
(line)	720	768	600	768	768
V front porch (mS)	0.089	0.063	0.026	0.062	0.053
(line)	4	3	1	3	3
V sync pulse width (mS)	0.177	0.126	0.106	0.124	0.106
(line)	8	6	4	6	6
V back porch (mS)	0.399	0.377	0.607	0.6	0.513
(line)	18	18	23	29	29
H sync polarity	Pos.	Pos.	Neg	Neg.	Neg.
V sync polarity	Pos.	Pos.	Pos.	Neg.	Neg.
Scan type	Non Interlaced	Non Interlaced	Non Interlaced	Non Interlaced	Non Interlaced

PC mode	26	27	28	29	30
Signal name	VESA 768@75Hz	VESA 768@85Hz	MAC@19”	VESA 1024@60Hz	VESA 1024@75Hz
Definition	1024*768	1024*768	1024*768	1280*1024	1280*1024
Dot clock frequency (MHz)	78.75	94.5	80	108	135
H frequency (kHz)	60.023	68.677	60.24	63.981	79.976
V frequency (Hz)	75.029	84.997	74.93	60.02	75.025
H total (uS)	16.66	14.561	16.600	15.63	12.501
(dots)	1312	1376	1328	1688	1688
H display period (uS)	13	10.836	12.8	11.852	9.481
(dots)	1024	1024	1024	1280	1280
H front porch (uS)	0.203	0.508	0.4	0.444	0.119
(dots)	16	48	32	48	2
H sync pulse width (uS)	1.219	1.016	1.2	1.037	1.067
(dots)	96	96	96	112	144
H back porch (uS)	2.235	2.201	2.2	2.296	1.837
(dots)	176	208	176	248	248
V total (mS)	13.328	11.765	13.347	16.661	13.329
(line)	800	808	804	1066	1066
V display period (mS)	12.795	11.183	12.749	16.005	12.804
(line)	768	768	768	1024	1024
V front porch (mS)	0.017	0.015	0.050	0.016	0.013
(line)	1	1	3	1	1
V sync pulse width (mS)	0.05	0.044	0.050	0.047	0.038
(line)	3	3	3	3	3
V back porch (mS)	0.466	0.524	0.498	0.594	0.475
(line)	28	36	30	38	38
H sync polarity	Pos.	Pos.	—	Pos.	Pos.
V sync polarity	Pos.	Pos.	—	Pos.	Pos.
Scan type	Non Interlaced	Non Interlaced	Non Interlaced	Non Interlaced	Non Interlaced

PC mode	31	32	33	34	35
Signal name	IDC-3000G PAL 625P	IDC-3000G NTSC 525P	HDTV-J	DTV (480P)	DTV (720P)
Definition	768*576	640*480	1920*1034	644*483	1280*720
Dot clock frequency (MHz)	29.687	24.39	74.25	24.37	74.25
H frequency (kHz)	31.389	31.47	33.75	31.469	45.000
V frequency (Hz)	50	59.9	60/60	59.94	60
H total (uS)	31.933	31.775	29.63	31.777	22.222
(dots)	948	775	2200	774	1650
H display period (uS)	25.87	26.24	25.86	26.427	17.239
(dots)	768	640	1920	644	1280
H front porch (uS)	0.269	0.41	0.59	0.75	0.943
(dots)	8	10	44	18	70
H sync pulse width (uS)	2.526	2.46	0.59	2.35	1.077
(dots)	75	60	44	57	80
H back porch (uS)	3.267	2.665	2.59	2.25	2.963
(dots)	97	65	192	55	220
V total (mS)	19.911	16.522	16.652	16.683	16.667
(line)	625	525	562/562	525	750
V display period (mS)	18.35	15.106	15.319	15.348	
(line)	576	480	517/517	483	720
V front porch (mS)	0.223	0.252	0.148	0.191	0.111
(line)	7	8	5	6	5
V sync pulse width (mS)	0.223	0.22	0.148	0.191	0.111
(line)	7	7	5	6	5
V back porch (mS)	1.115	0.944	1.037	0.953	0.444
(line)	35	30	35	30	20
H sync polarity	Neg	Neg	Neg	Neg	Neg
V sync polarity	Neg	Neg	Neg	Neg	Neg
Scan type	Non Interlaced	Non Iinterlaced	Interlaced	Non Interlaced	Non Interlaced

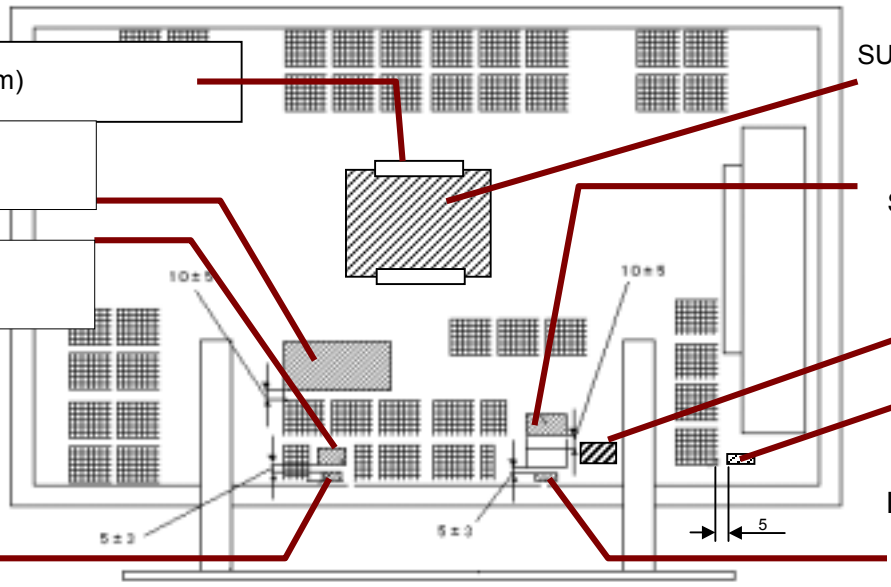
PC mode	36	37	38	39
Signal name	HDTV-W	SSPE	JSPE	MAC@12”
Definition	1920*1080	1024*512	852*480	1152*870
Dot clock frequency (MHz)	74.25	40	16	100
H frequency (kHz)	33.75	33.727	15.75	68.681
V frequency (Hz)	60/60	60.012	59.94	75.062
H total (uS)	29.630	29.650	63.750	14.560
(dots)	2200	1186	1020	1456
H display period (uS)	25.859	25.600	53.250	11.520
(dots)	1920	1024	852	1152
H front porch (uS)	0.593	0.600	1.250	0.320
(dots)	44	24	20	32
H sync pulse width (uS)	1.185	1.200	4.750	1.280
(dots)	88	48	76	128
H back porch (uS)	1.993	2.250	4.500	1.440
(dots)	148	90	72	144
V total (mS)	16.652/16.682	16.663	16.683	13.322
(line)	562/563	562	262.5/262.5	915
V display period (mS)	16.000/16.000	15.15	15.236/15.236	12.667
(line)	540/540	511	239/239	870
V front porch (mS)	0.059/0.074	0.178	0.064/0.096	0.044
(line)	2/2.5	6	1/1.5	3
V sync pulse width (mS)	0.148/0.148	0.148	0.191/0.191	0.044
(line)	5/5	5	3/3	3
V back porch (mS)	0.444/0.459	1.186	1.211/1.243	0.568
(line)	15/15.5	40	19/19.5	39
H sync polarity	Neg	Neg	Neg	Sync on G
V sync polarity	Neg	Neg	Neg	Sync on G
Scan type	Interlaced	Non Interlaced	Interlaced	Non Interlaced

METHOD OF DISASSEMBLY

(Cautions)

1. Before disassembly, turn power off the main unit and pull out the power plug from the wall outlet.
2. Use a screwdriver with a fitting size. Otherwise, the screw threads may be damaged.
3. Reassembly can be carried out in the reverse order for disassembly. Refer to the disassembly procedures and forward reassembly in the reverse order.
4. The order for taking out the parts (or components) is indicated by the foregoing numeral that is attached to the name of each part (or component).
5. The wire connector symbol is indicated by two digits of Marking□□. Read CN-□□when examining the table of parts.

1.LABEL



FILAMENT TAPE(9mm*50m)

NAME PLATE(M53)

LABEL (EARTH) (M65)

AC IN LABEL(M55)

SUPPLEMENT SHEET (M62)

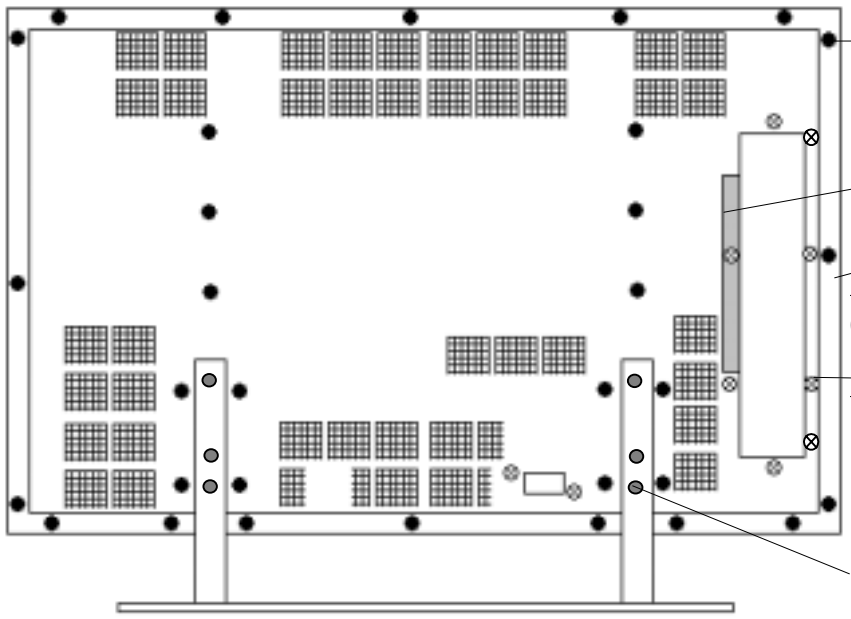
SPEAKER LABEL(M54)

SERIAL LABEL(M10)

LABEL A (2001) (M66)

LABEL (OUT) (M64)

2.BACK COVER



(1)PL-CPIMS*4*12*15KF(SRW36)

TERMINAL LABEL B (M57)

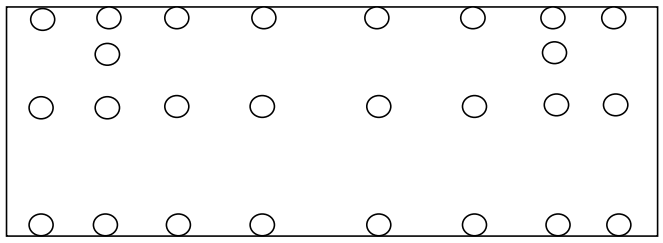
(3) BACK COVER (M58)

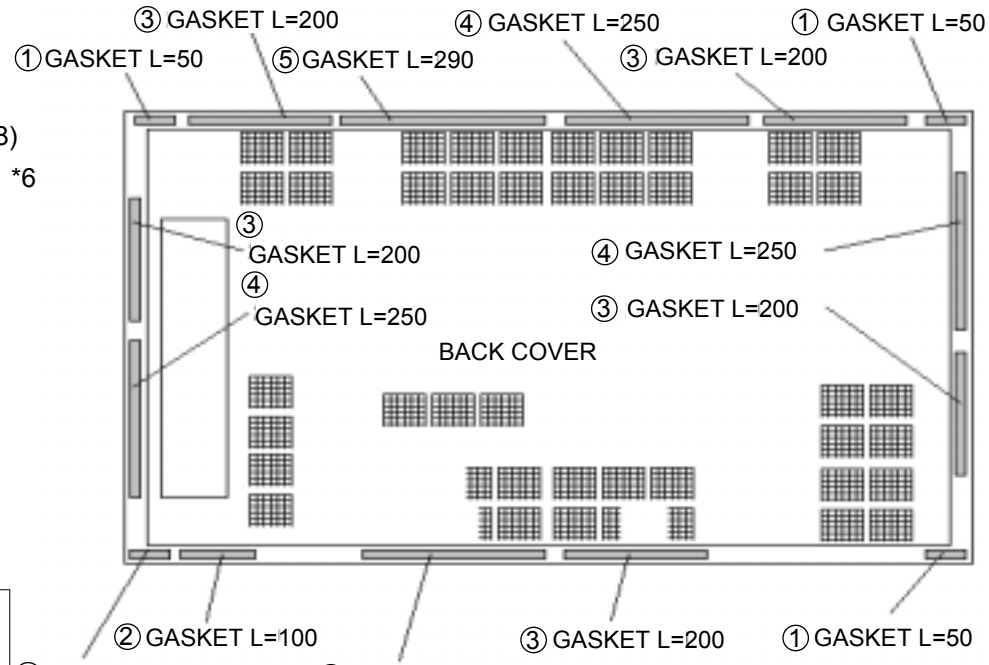
(2)PL-CPIMS*3*6*3KF(SRW35)

SCREW(M68)
024N04431 *6

FELTSHHET(M69)

STAND REAR SIDE

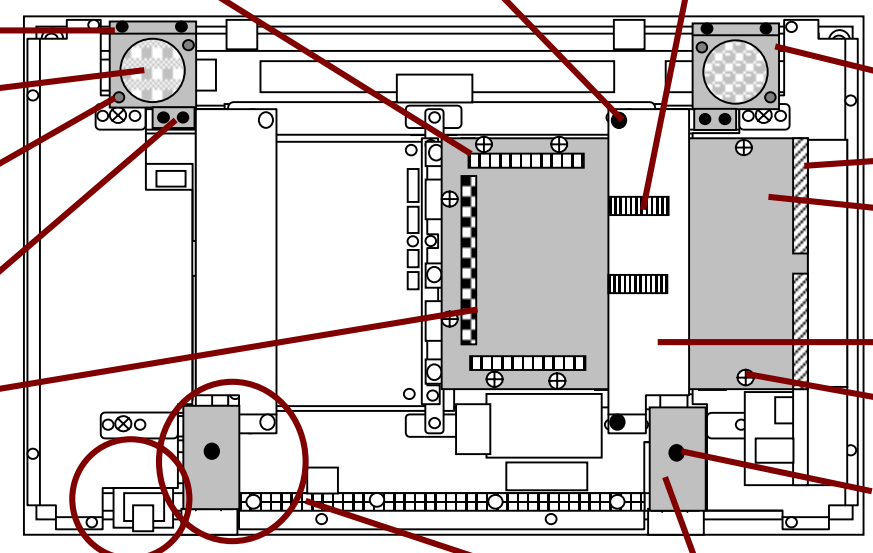




BACK COVER REAR SIDE

SYMBOL	PARTS NAME	PARTS NO.	Q'TY
① (GSK03)	GASKET (L50*10*T7)		4
② (GSK04)	GASKET (L200*10*T7)		5
③ (GSK05)	GASKET (L290*10*T7)		1
④ (GSK06)	GASKET (L250*10*T7)		4
⑤ (GSK07)	GASKET (L100*10*T7)		1

3.MAIN PWB/DSP PWB/VIDEO PWB



GASKET (L160*9*T4) (M19 (GSK11)) *2

(1)TP-M4*8*3KF(SRW34)

TP-M4*8*3KF(SRW11,12) *4X2

FAN MOTOR(E01) *2

SCREW,M3*30*15KF(SRW29) *2X2

BRACKET (FAN) R (M37)

GASKET(L300*10*T7)(M20(GSK12))

GASKET (L150*10*T4) (M20 (GSK13)) *2

BRACKET (FAN) L (M36)

GASKET (L200*10*T7) (M12 (GSK04)) *2

(4) SHIELD COVER (MAIN/VIDEO) (M43)

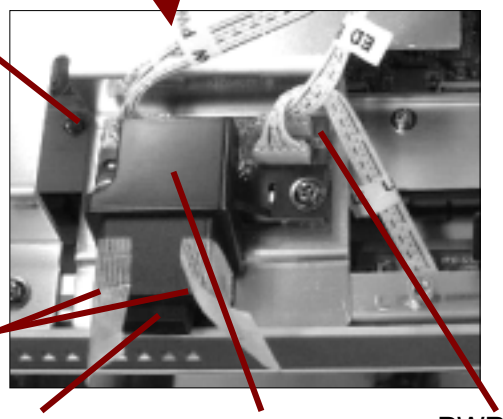
(2) BRACKET (OPTION L) (M42)

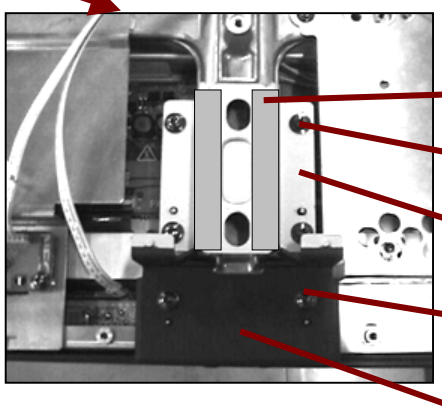
(3)TP-M3*6*3KF(SRW33) *8

TP-M4*8*3KF(SRW30) *2

COVER(BOTTOM)(M29) *2

TP-M4*8*3KF(SRW28) *1X2





GASKET(L70*10*T1)(M18(GSK10) *2X2

TP-M4*8*3KF(SRW31) *4X2

BRACKET STAND(A)(M30) *2

TP-M4*8*3KF(SRW32) *2X2

BRACKET STAND(B)(M31) *2

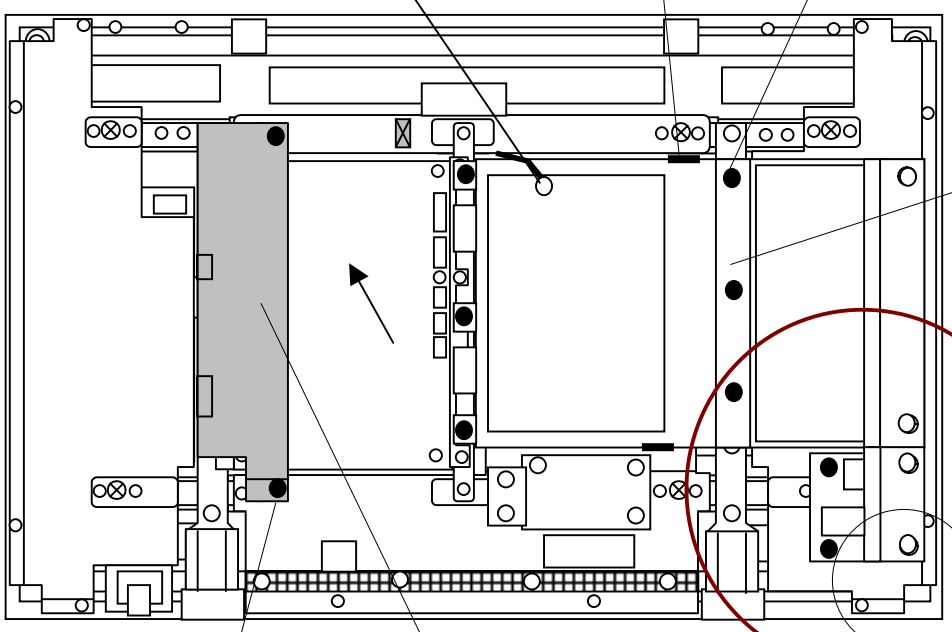
(Caution) When mounting a back cover, stick the filament tape (30mm*50m) for the prevention of getting flaws. In this case, however, the filament tape shall be removed after mounting.

BUTTON(PWR)(M07) COVER(POWER SW)(M26) PWR PWB ASSY(PWC-4419C)(A10)

(Caution) At the time of assembly, it shall be tightened together with the round terminal of the connector CN-AD.

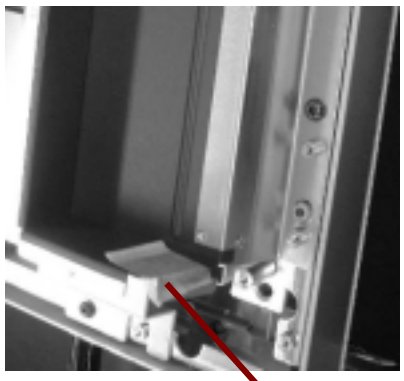
EDGE SADDLE(M06)
*3

(5)TP-M4*8*3KF(SRW13)
*6



(6) TERMINAL PANEL (VI) ASSY (M59)

Adhesion of the protective tape



(Caution) When mounting a back cover, stick the filament tape (30mm*50m) for the prevention of getting flaws.
In this case, however, the filament tape shall be removed after mounting.

TP-M4*8*3KF(SRW34)
*2

BRACKET (OPTION R) (M44)

TP-M3*6*3KF(SRW19)
*2

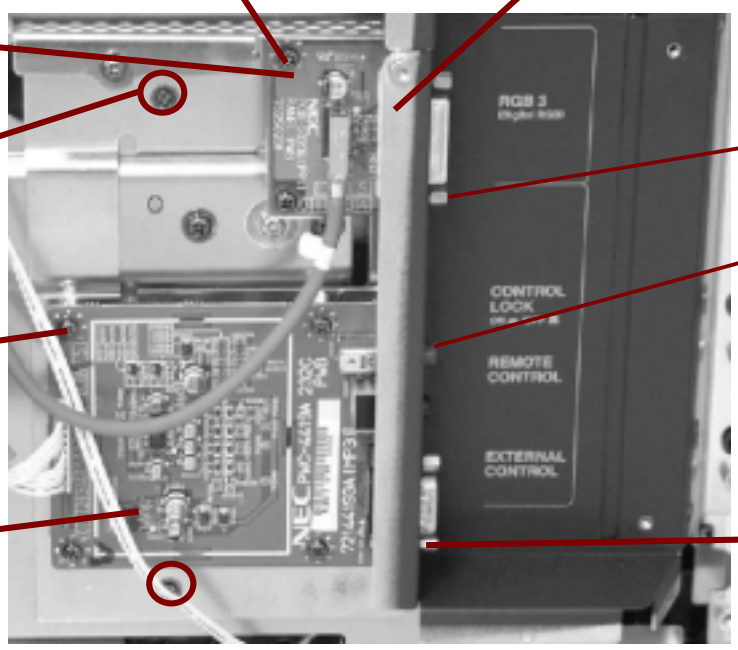
TERMINAL PANEL (232) ASSY (M60)

PANEL PWB ASSY (PCB-5023B) (A03)

PL-CPIMS*3*6*3KF(SRW15)
*2

TP-M3*6*3KF(SRW20)
*4

232C PWB ASSY (PWC-4419A) (A08)



SCREW(UNC4-40/4-40)(SRW241)
*2

C/L BUTTON(M08)

PL-CPIMS*3*6*3KF(SRW202)
*2

• TERMINAL PANEL (VI) ASSY

(8) MAIN PWB ASSY (PCB-5022) (A01)

(9) DSP PWB ASSY (PCB-5022) (A06)

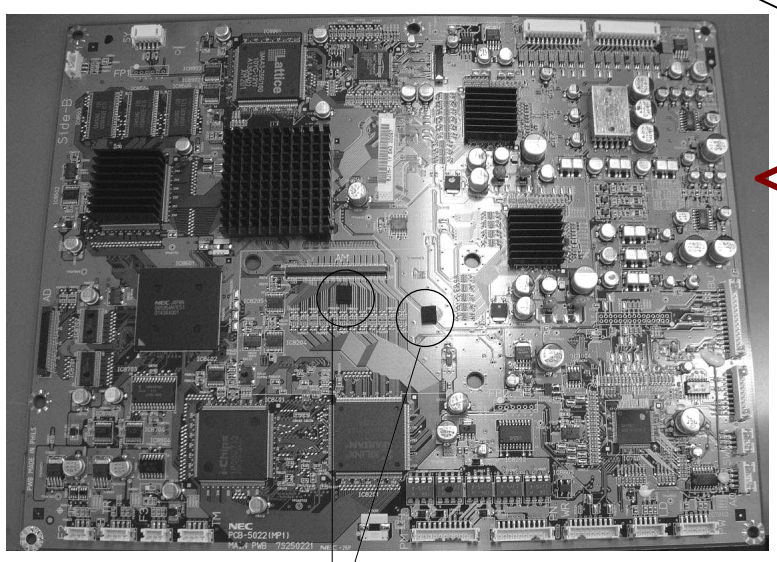
(7)TP-M3*6*3KF(SRW16,162)
*9

(12)TP-M3*6*3KF(SRW17)
*5

(13) VIDEO PWB ASSY(PCB-5023A) (A02)

SHIELD PLATE (VIDEO) (M46)

[C]



[C]

[A]

[D]

[D]

[B]

(11) 6SCREW (UNC4-40/4-40) (SRW106)
*2

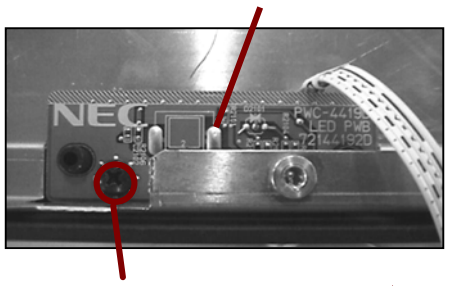
(10) CBIPS*3*8*3KF (SRW18)
*9

CUSHION RUBBER(M70)
*2

[B]

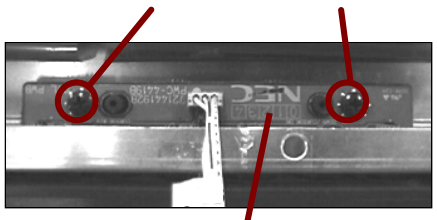
[A]

4. AUDIO AMPLIFIER MODULE

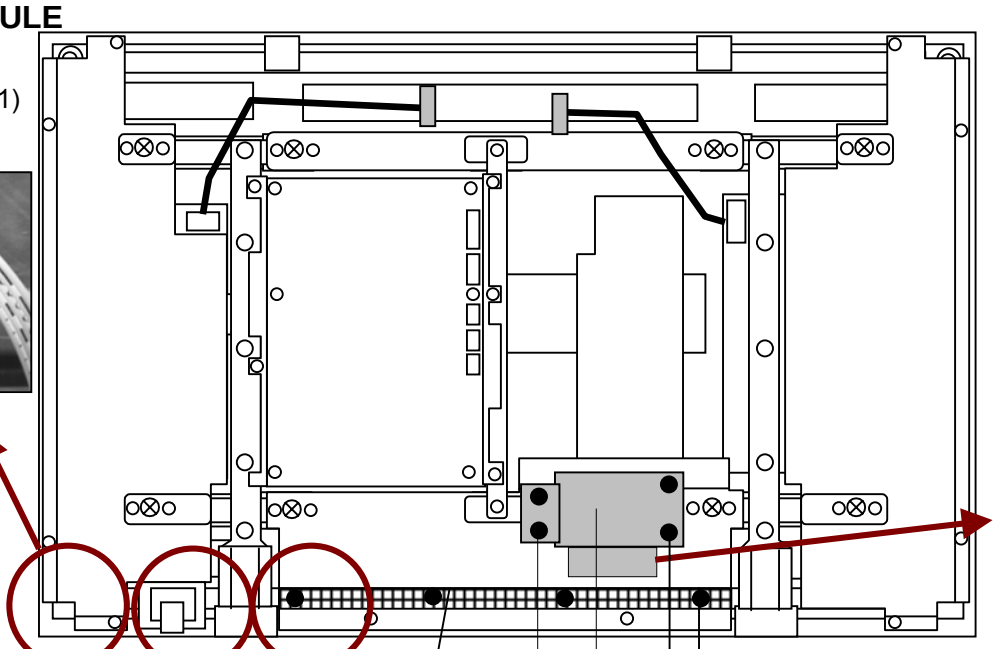


LED PWB ASSY (PCB-4419B) (A11)

CBIPS*4*12*3KF (SRW02)
*3



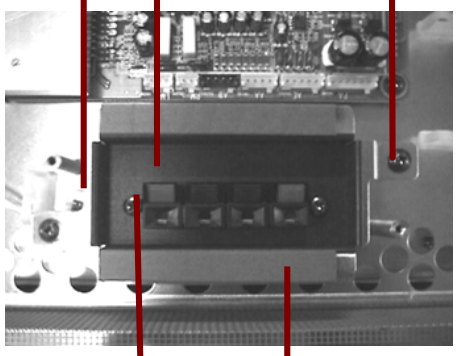
CTL PWB ASSY (PCB-4419B) (A09)



SP PWB ASSY (PWC-4419E) (A12)

TERMINAL PANEL (SP) (M61)

TP-M3*6*3KF(SRW24)
*2



TP-M4*8*3KF(SRW37)
*4

CBIPS*3*8*3KF(SRW23)
*2

(1)TP-M3*6*3KF(SRW21)
*2

GASKET (L70*10*T1) (M17 (GSK09))
*2

MESH (M47)

(3)AUDIO AMPLIFIER MODULE(A_UNIT)

(2)SCREW,P-CPIMS*3*14*3KF(SRW22)
*2

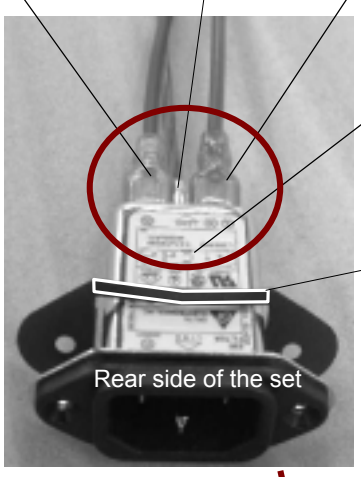
• AC INLET ASSY

CABLE 1P(E02) 07S530015 Green

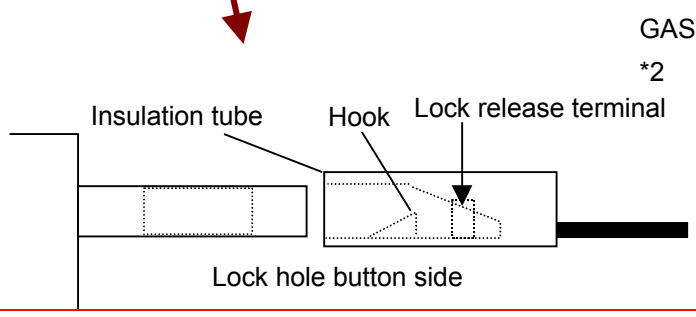
CABLE 2P (E02)
Blue

CABLE 2P(E02) Brown

AC INLET 10GEEG3C(E02)



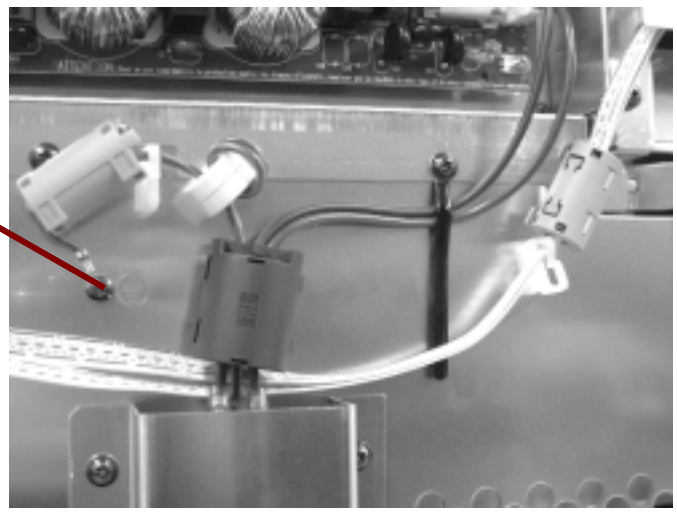
(Caution) No bending process



(Caution) Insert the cable in the AC inlet until its terminal hook is locked. After insertion, try to pull the cable to confirm whether or not it comes out. To disconnect the cable, push the lock release terminal by a finger in the direction of the arrow, and pull out the cable in the lengthwise direction. (No unlocking unless the position of hook's tip is lower than the lock hole bottom side.)

Side view

ET-CBIMS*4*8*3KF(SRW26)



COVER (INLET) (M63)

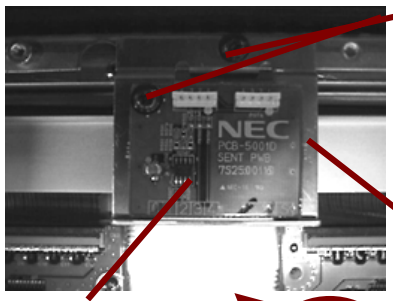
TP-M4*8*3KF(SRW27)
*2

GASKET (L60*10*T2) (M17 (GSK08))
*2

BARRIER (INLET) (M09)

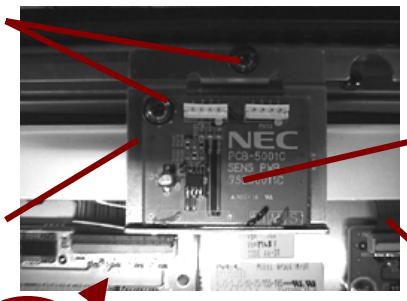
PL-CPIMS*3*10*15KF(SRW25)
*2

5. POWER UNIT



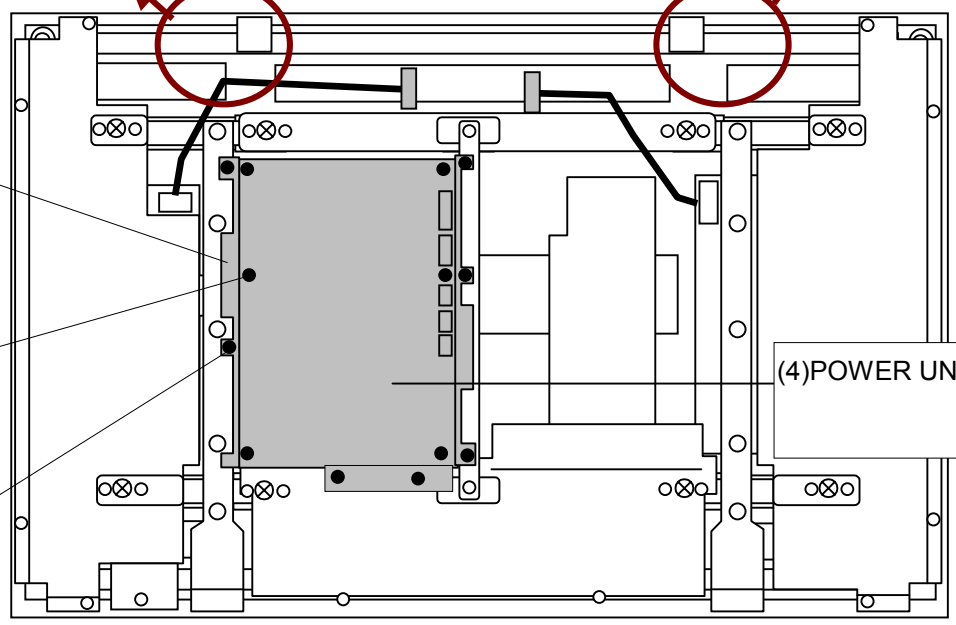
TP-M4*8*3KF(SRW39,40)
*2 x 2

PLATE(M48)
*2



SENS PWB ASSY(PCB-5023C)(A04)

SENT PWB ASSY(PCB-5023D)(A05)



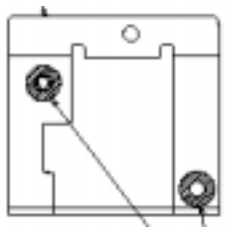
(2)BRACKET(POWER)(M41)

(3) TP-M4*8*3KF (SRW09)
*6

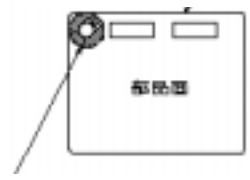
(1)TP-M4*8*3KF(SRW10)
*7

(4)POWER UNIT(A13)

PLATE



SENS PWB ASSY
SENT PWB ASSY



INSULATORD4.5*T1)(M67)
*6

6.PDP MODULE

(11)FRAME(T)(M34)

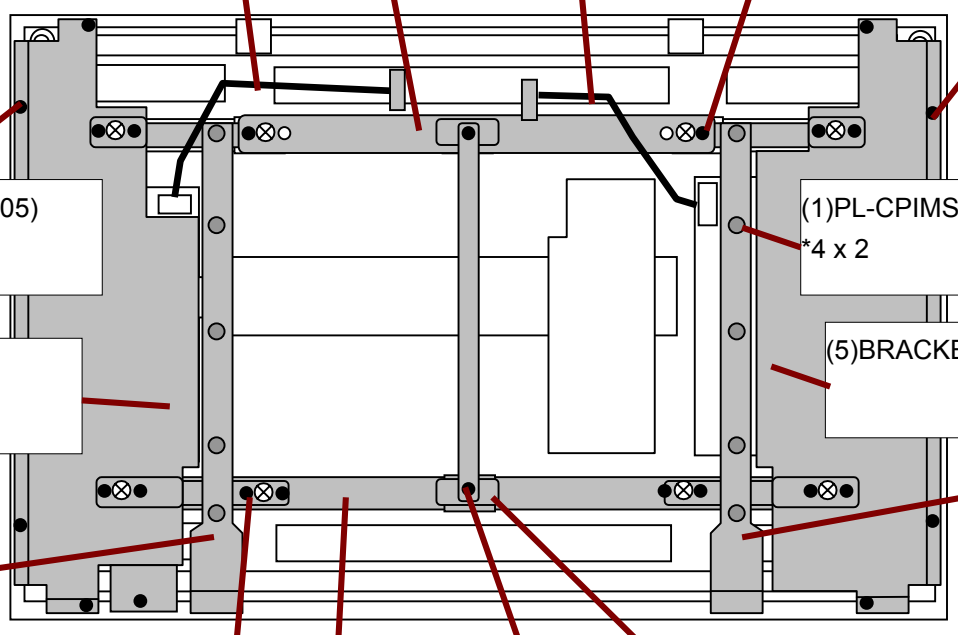
(10)TP-M4*8*3KF(SRW07)
*2

(4)TP-M4*8*3KF(SRW04)
*8

CN 9P(PH)(CN-PH)

CN 10P(PD) (CN-PD)

STOP UP SHEET(M71)
*8



(6)TP-M4*8*3KF(SRW05)
*9

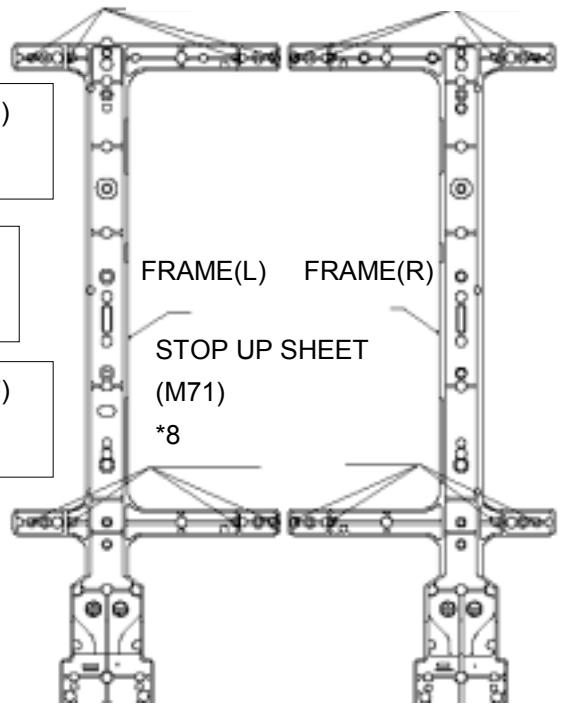
(1)PL-CPIMS*4*16*3GF(SRW03)
*4 x 2

(7)BRACKET(R)(M33)

(5)BRACKET(L)(M32)

(2)FRAME(L) (M27)

(3)FRAME(R) (M28)



FRAME(L) FRAME(R)

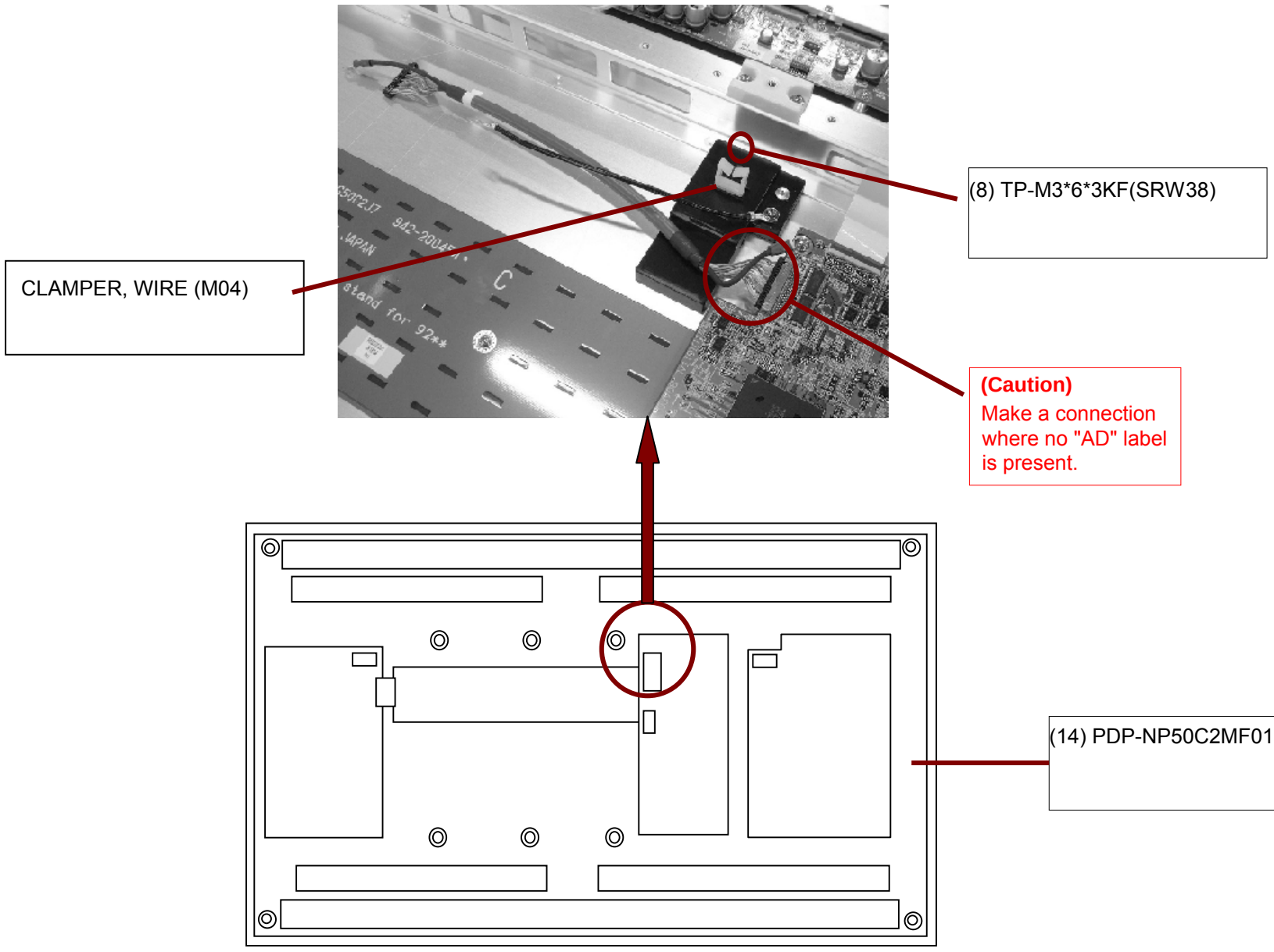
STOP UP SHEET
(M71)
*8

(12)TP-M4*8*3KF(SRW06)
*4

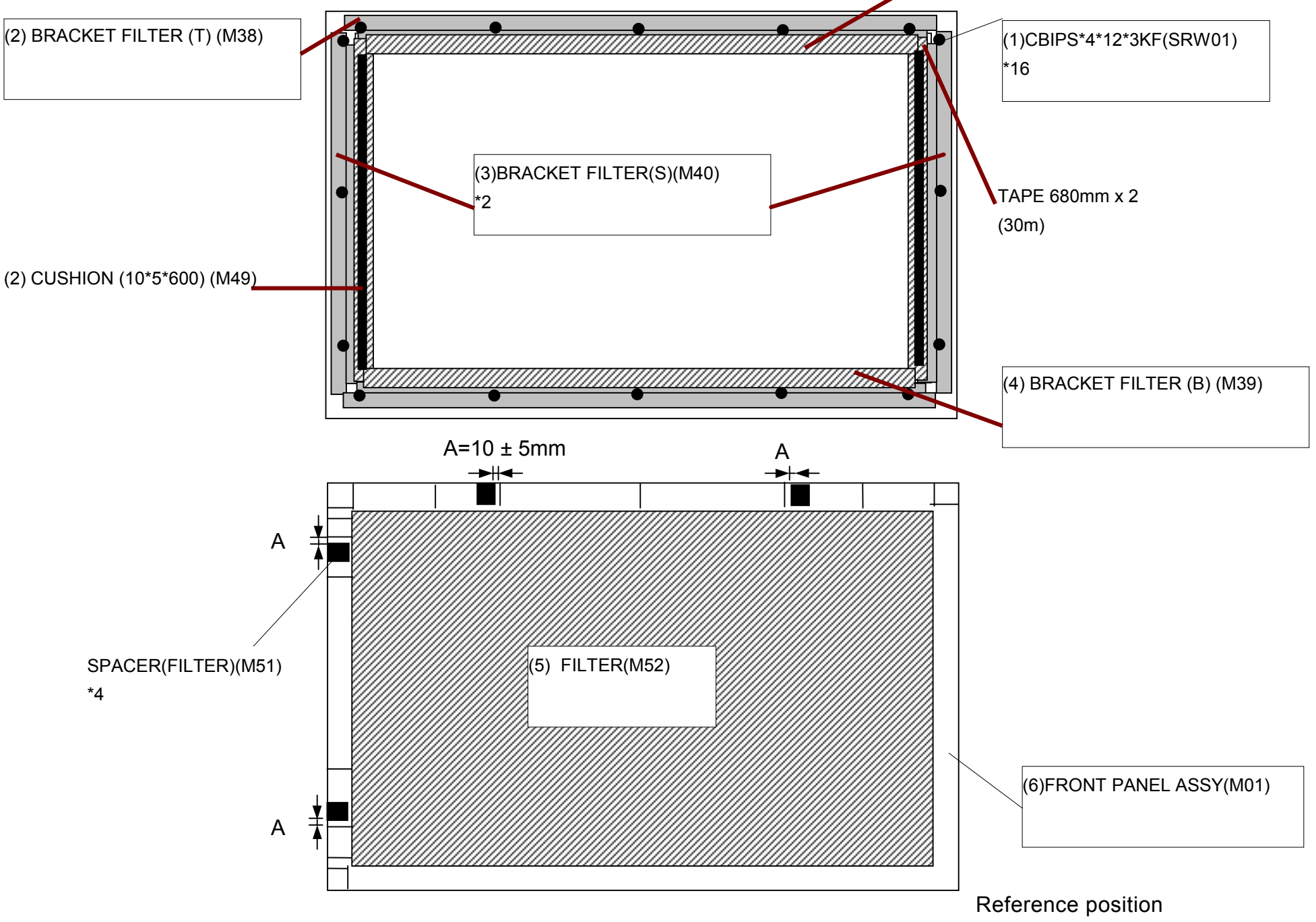
(9) FRAME(CENTER)(M45)

(13)FRAME(B)(M35)

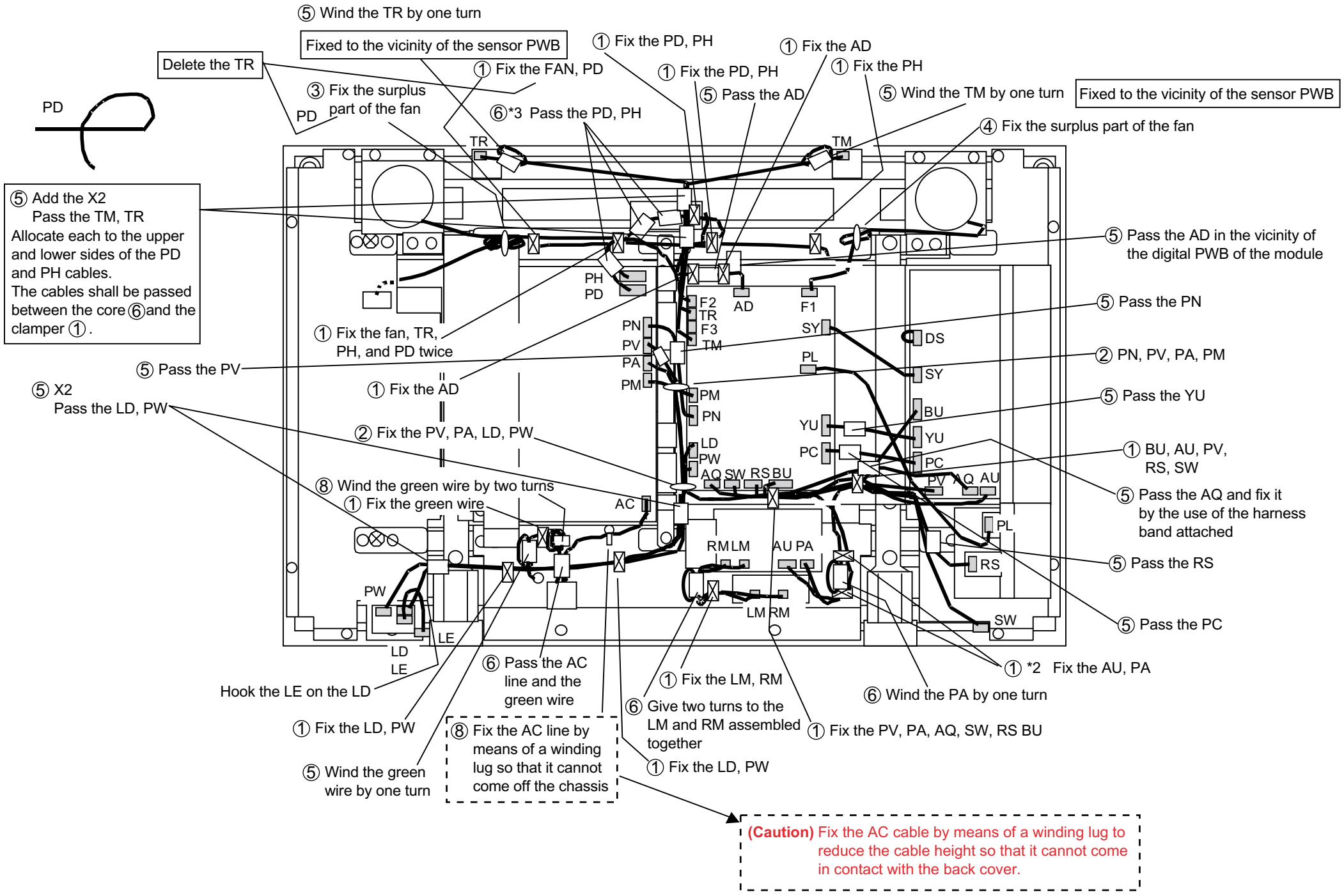
(8) TP-M4*8*3KF(SRW08)
*2



7.FRONT PANEL ASSY/FILTER



WIRING DIAGEAM

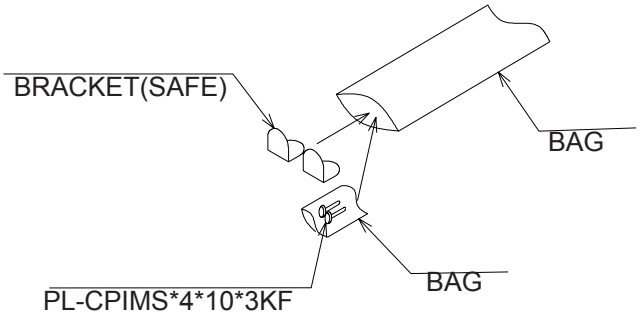

⑤ Wind the TR by one turn
Fixed to the vicinity of the sensor PWB
Delete the TR
① Fix the FAN, PD
① Fix the PD, PH
① Fix the PD, PH
① Fix the AD
① Fix the PH
⑤ Wind the TM by one turn
Fixed to the vicinity of the sensor PWB
PD
PD
③ Fix the surplus part of the fan
⑥*3 Pass the PD, PH
⑤ Pass the AD
④ Fix the surplus part of the fan
⑤ Add the X2
Pass the TM, TR
Allocate each to the upper and lower sides of the PD and PH cables.
The cables shall be passed between the core ⑥and the clamper ① .
⑤ Pass the AD in the vicinity of the digital PWB of the module
⑤ Pass the PN
⑤ Pass the PV
① Fix the fan, TR, PH, and PD twice
① Fix the AD
② PN, PV, PA, PM
⑤ X2
Pass the LD, PW
⑤ Pass the YU
② Fix the PV, PA, LD, PW
① BU, AU, PV, RS, SW
⑧ Wind the green wire by two turns
① Fix the green wire
⑤ Pass the AQ and fix it by the use of the harness band attached
⑤ Pass the RS
⑤ Pass the PC
① *2 Fix the AU, PA
Hook the LE on the LD
⑥ Pass the AC line and the green wire
① Fix the LM, RM
⑥ Wind the PA by one turn
⑥ Give two turns to the LM and RM assembled together
① Fix the LD, PW
① Fix the PV, PA, AQ, SW, RS BU
⑤ Wind the green wire by one turn
⑧ Fix the AC line by means of a winding lug so that it cannot come off the chassis
① Fix the LD, PW
(Caution) Fix the AC cable by means of a winding lug to reduce the cable height so that it cannot come in contact with the back cover.
TR
TM
PH
PD
F2
TR
F3
TM
AD
F1
PN
PV
PA
PM
SY
DS
PL
SY
PM
PN
LD
PW
BU
YU
PC
YU
PC
AQ SW RS BU
PV AQ AU
AC
PL
RM LM
AU PA
RS
PW
LM RM
SW
LE
LD
LE

SYMBOL		PARTS NAME	PART No.	Q'ty
—	CN-AD	CABLE 41P L250		1
—	CN-AQ	CN 4P(AQ) 400W,2791-28		1
—	CN-AU	CN 7P(AU) 500W,2791-28		1
—	CN-BU	CN 14P(BU) 325W,2468-26		1
—	CN-DS	CN 3P(DS) 50S, 1007-26		1
—	CN-LD	CN 5P(LD) 625W,2468-26		1
—	CN-LE	CN 5P(LE) 125,2468-26		1
—	CN-LM	CN 3P(LM) 400,2468-26		1
—	CN-PA	CN 6P(PA) 700,2468-26		1
—	CN-PC	CN 13P(PC) 125W,MIX		1
—	CN-PD	CN 10P(PD) 900W, 1007-20		1
—	CN-PH	CN 9P(PH) 500W, 1007-20		1
—	CN-PL	CABLE, TWINAX 21P L450		1
—	CN-PM	CN 11P(PM) 100W,2468-26		1
—	CN-PN	CN 10P(PN) 150W,2468-26		1
—	CN-PV	CN 8P(PV) 600W,2468-26		1
—	CN-PW	CN 6P(PW) 650W,2468-26		1
—	CN-RM	CN 2P(RM) 375,2468-26		1
—	CN-RS	CN 9P(RS) 475W,2468-26		1
—	CN-SW	CN 3P(SW) 625W,2468-26		1
—	CN-SY	CN 5P(SY) 175W,1691-28		1
—	CN-TM	CN 4P(TM) 525W,2468-26		1
—	CN-TR	CN 4P(TR) 525W,2468-26		1
—	CN-YU	CN 12P(YU) 125W,MIX		1

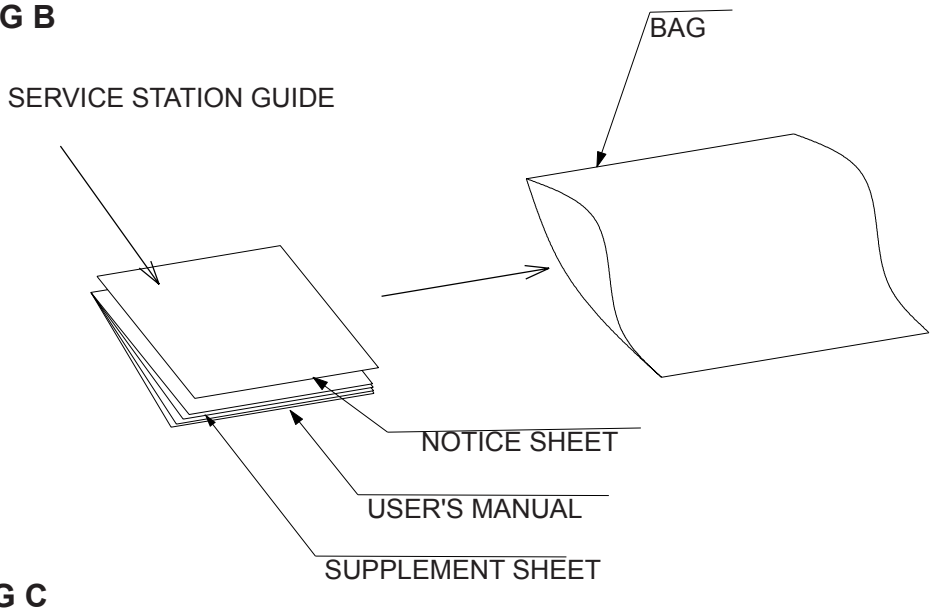
SYMBOL		PARTS NAME	PART No.	Q'ty
①	M02	CLAMPER,WIRE		15
②	M03	CLAMPER,WIRE (D11.5)		2
③	M05	CLAMPER,WIRE (D8.3)		1
④	M21	LEAD CLAMPER (D5.2)		1
⑤	FL31	FERRITE CORE ZCAT2032-930(FG)		1
⑤	FL12	FERRITE CORE ZCAT2032-930(AD)		2
⑤	FL35	FERRITE CORE ZCAT2032-930(TM)		1
⑤	FL36	FERRITE CORE ZCAT2032-930(TR)		1
⑤	FL5	FERRITE CORE ZCAT2032-930(PN)		1
⑤	FL6	FERRITE CORE ZCAT2032-930(RS)		1
⑤	FL8	FERRITE CORE ZCAT2032-930(PC)		1
⑤	FL37	FERRITE CORE ZCAT2032-930(LD/PW)		1
⑤	FL38	FERRITE CORE ZCAT2032-930(LD/PW)		1
⑤	FL51	FERRITE CORE ZCAT2032-930(PV)		1
⑤	FL52	FERRITE CORE ZCAT2032-930(AQ)		1
⑤	FL53	FERRITE CORE ZCAT2032-930(YU)		1
⑤	FL54	FERRITE CORE ZCAT2032-930(TR'/TM')		2
⑥	FL30	FERRITE CORE SFT-72SB (AC FG)		1
⑥	FL11	FERRITE CORE SFT-72SB (PA)		1
⑥	FL33	FERRITE CORE SFT-72SB (LM,RM)		1
⑥	FL7	FERRITE CORE SFT-72SB (PD/PH)		3
⑦	FL32	FERRITE CORE (ESD-R-19) (FG)		1
⑧	M72	LUG (L72)		1

PACKAGING

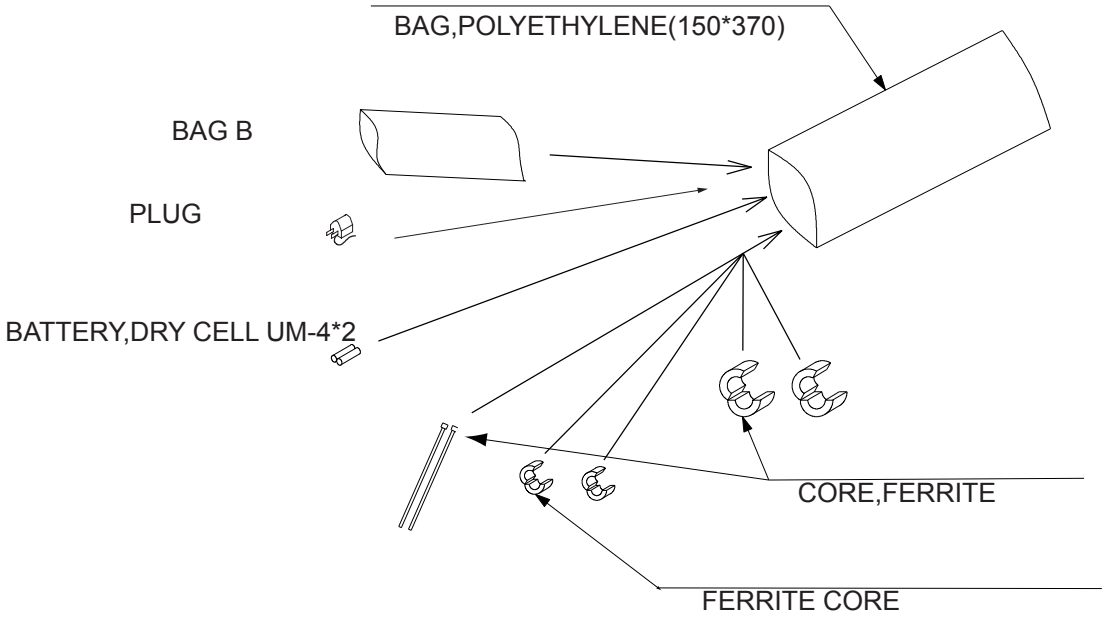
1.BAG A



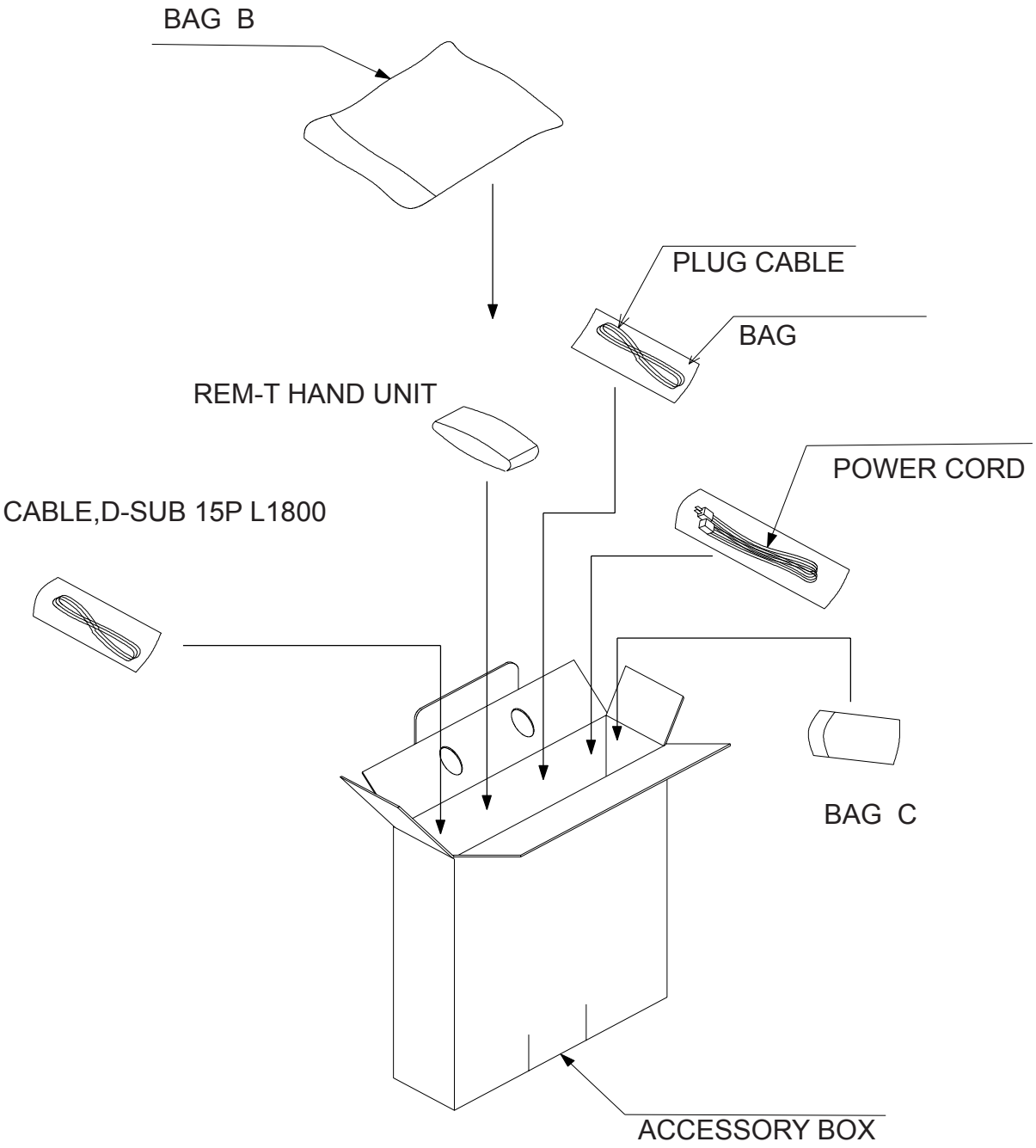
2.BAG B



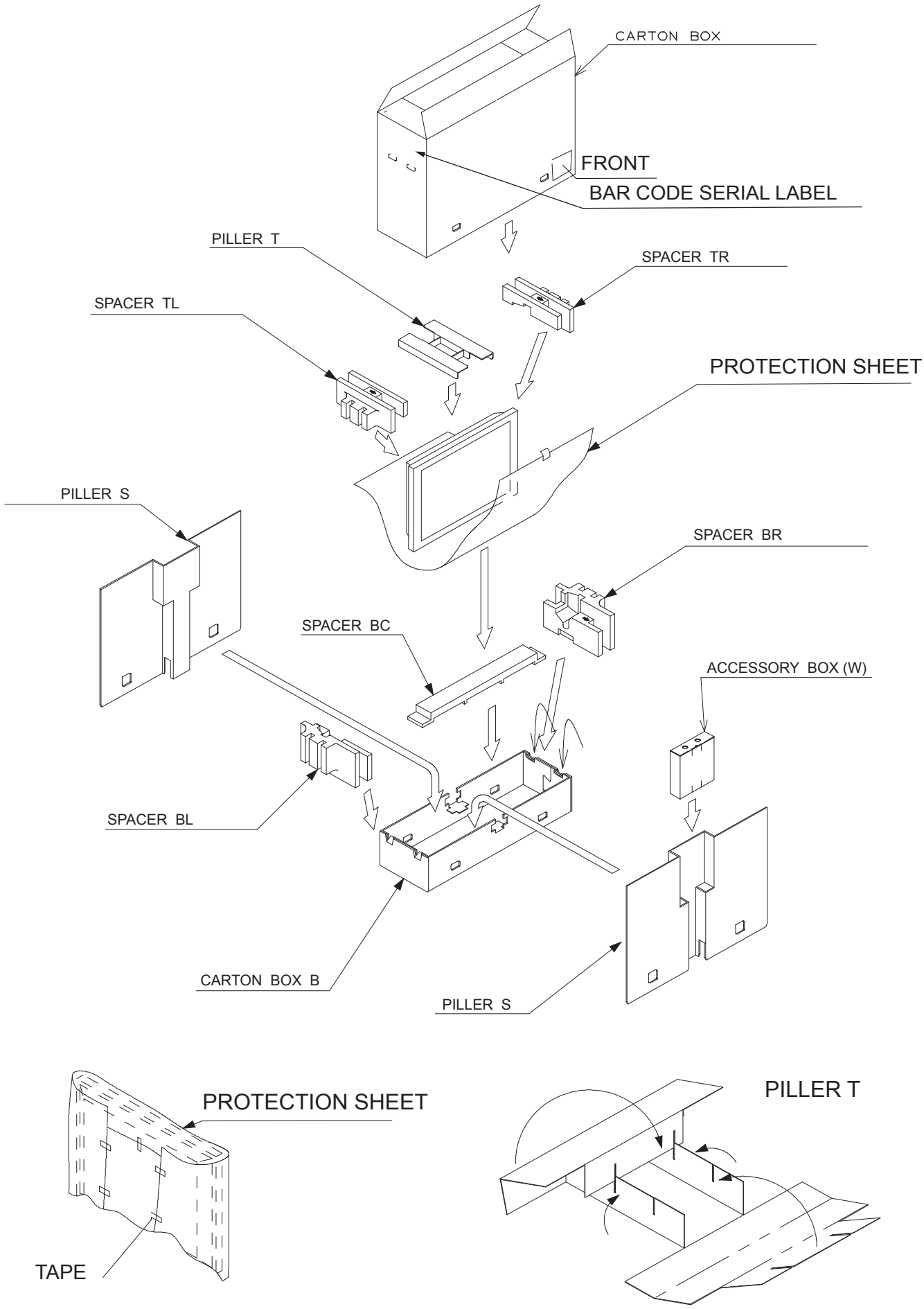
3.BAG C

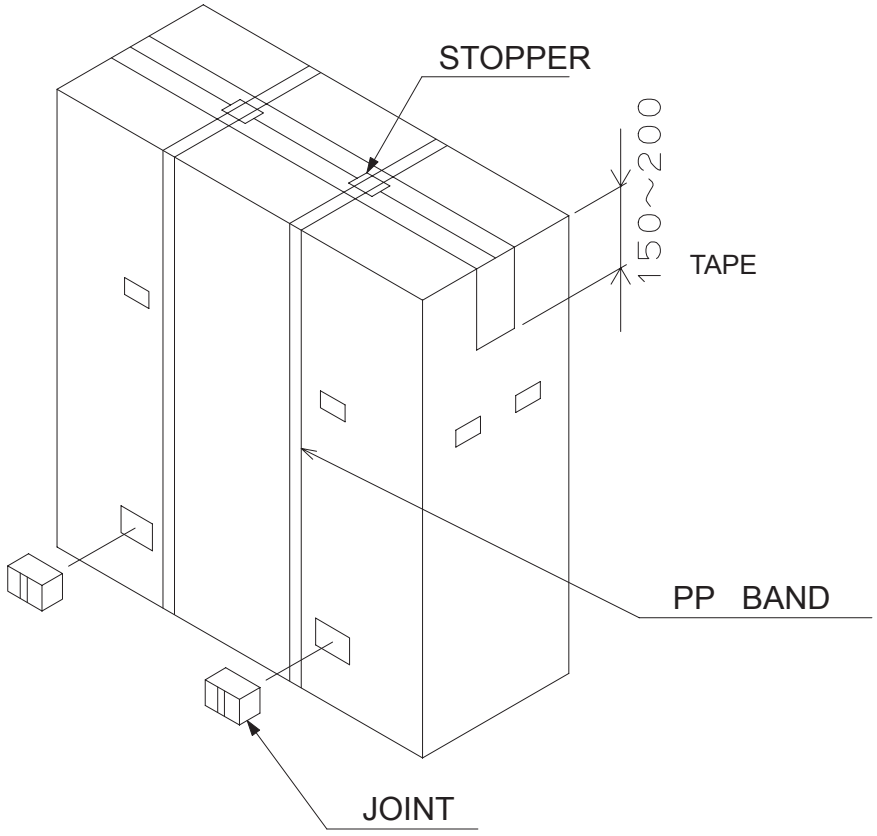


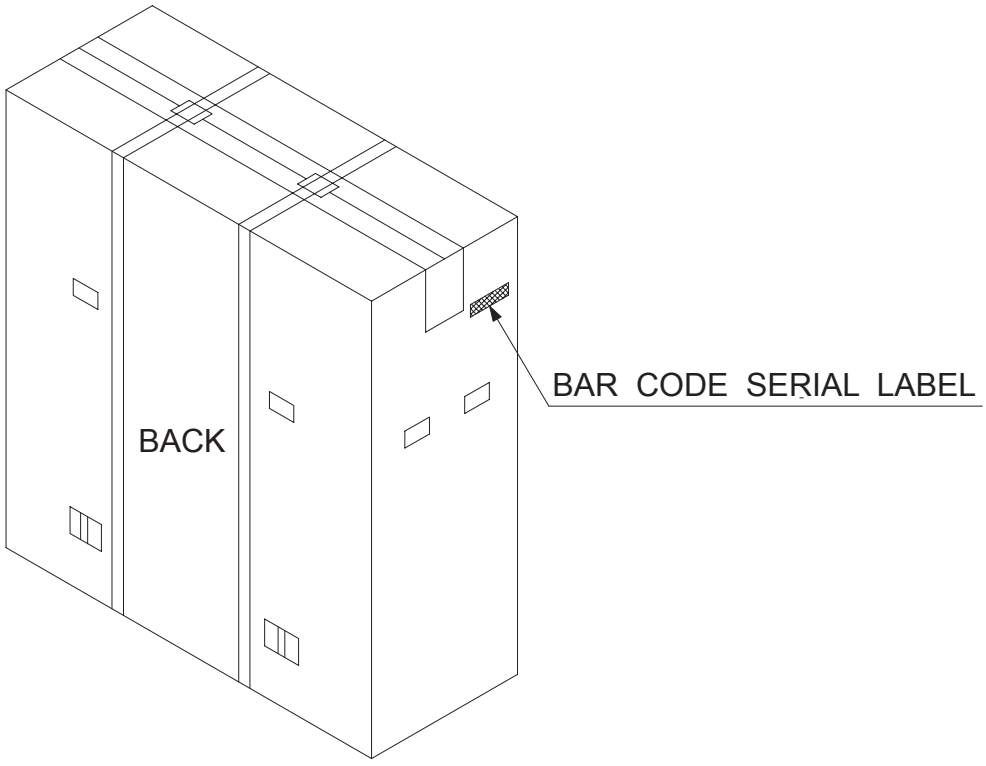
4. ACCESSORY BOX



5.CARTON BOX


CARTON BOX
FRONT
BAR CODE SERIAL LABEL
PILLER T
SPACER TR
SPACER TL
PROTECTION SHEET
PILLER S
SPACER BR
SPACER BC
ACCESSORY BOX (W)
SPACER BL
CARTON BOX B
PILLER S
PROTECTION SHEET
TAPE
PILLER T


STOPPER
150~200
TAPE
PP BAND
JOINT


BACK
BAR CODE SERIAL LABEL

PARTS LIST

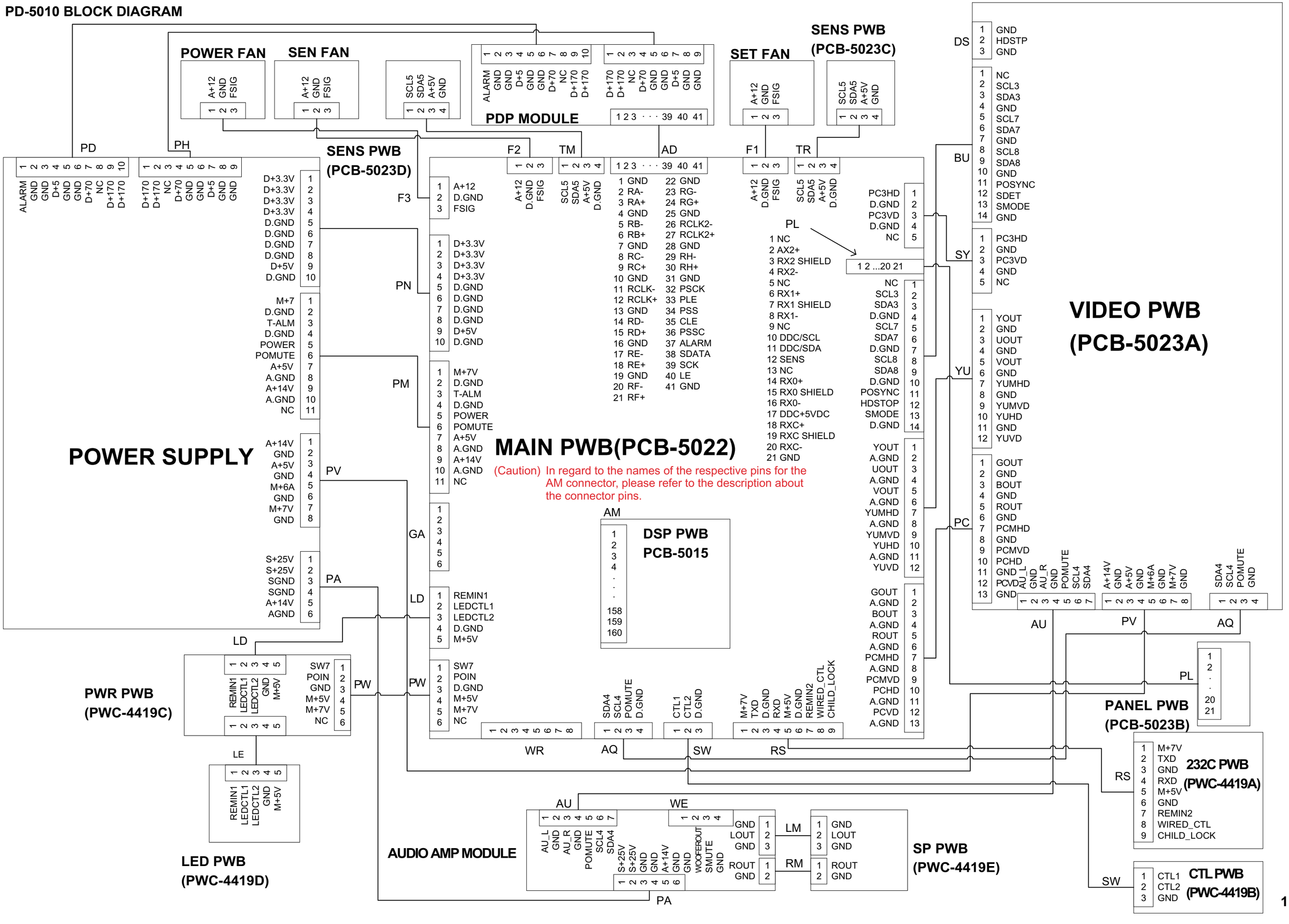
Notes:

1. Parts orders must contain model name, parts number and parts name.
2. When you place an order for spare parts, please refer to the respective service manual and mention the right parts number on your P.O. sheets
3. The letters NSP in the table indicate non-service parts.
4. Please refer to METHOD OF DISASSEMBLY or PACKAGING of service manual about a parts layout.

PD-5010 Parts List	
Part Number	**Description**
03S130222	AUDIO AMPLIFIER MODULE
07S530015	CABLE-1P L360
07S530021	CABLE-2P L240
07S530008	CABLE-41P L250
07S580006	CABLE-D-SUB 15P L1800
07S580010	CABLE-STEREO MINI L3M
07S530002	CABLE-TWINAX 21P L450
07S552004	CORD-POWER AC
029P00812	COVER-BACK ASSY
03S170001	FAN-MOTOR (109P1212L4D03)
029H00024	FRAME (L)
029H00034	FRAME (R)
029K00351	FILTER-SCREEN SHIELD (M52)
I/B PD5010	INSTRUCTION BOOK
029DS0411	PANEL-FRONT ASSY (M01)
029PS0821	PANEL-TERMINAL (232) ASSY
029PS0621	PANEL-TERMINAL (VI) ASSY
09S900017	PDP-NP50C2MF01
0936P7D01	PWB-DSP ASSY (PCB-5015)
0936P7M01	PWB-MAIN (PCB-5022)
03S110061	PWB-POWER UNIT (A13)
0936P7S91	PWB-SUB ADJ (PWC-4419A)
0936P7V01	PWB-VIDEO (PCB-5023A)
03S120141	REM0TE

CONNECTION DIAGRAMS

PD-5010 BLOCK DIAGRAM



Connector pin descriptions

Between PWBs	Connector name	Pin No.	Signal name	Acronym	Complementary description	Signal direction
MAIN-VIDEO	DS					
		1	GND	GND		
		2	HDSTP	Video mute control of chroma signal	Turned LO when the DS connector is available, and video output is generated. Turned HI when no DS connector is available, and video output is muted.	
		3	GND	GND		
MAIN-VIDEO	BU					
		1	NC			
		2	SCL3	CLK of the I2C bus	Control signal of IC5001, 5305, and 5306	MAIN → VIDEO
		3	SDA3	DATA of the I2C bus	Control signal of IC5001, 5305, and 5306	MAIN → VIDEO
		4	GND	GND		
		5	SCL7	CLK of the I2C bus	Control signal of IC5501 and 5505	MAIN → VIDEO
		6	SDA7	DATA of the I2C bus	Control signal of IC5501 and 5505	MAIN → VIDEO
		7	GND	GND		
		8	SCL8	CLK of the I2C bus	For extension I/O	MAIN → VIDEO
		9	SDA8	DATA of the I2C bus	For extension I/O	VIDEO → MAIN
		10	GND			
		11	POSYNC	Power control for power management	Power ON with HI	VIDEO → MAIN
		12	SDET	Insertion detect signal for the S terminal	Presence of S terminal identified with HI	VIDEO → MAIN
		13	MODE	Mode control signal of S1/S2 terminal	Usually LO. S1: 5V, S2:2.5V	VIDEO → MAIN
		14	GND	GND		
MAIN-VIDEO	SY					
		1	PC3HD	Horizontal sync signal for PC signal (digital input)	Horizontal sync signal for PC signal of digital input	NAIN → VIDEO
		2	GND	GND		
		3	PC3VD	Vertical sync signal for PC signal (digital input)	Vertical sync signal for PC signal of digital input	MAIN → VIDEO
		4	GND	GND		
		5	NC	No-connection terminal		
MAIN-VIDEO	YU					
		1	YOUT	Chroma Y signal or VIDEO G signal	For the chroma signal, input signal is immediately output. For the video signal, each decoded original color signal is output.	VIDEO → MAIN
		2	GND	GND		
		3	UOUT	Chroma B-Y signal or VIDEO B signal	For the chroma signal, input signal is immediately output. For the video signal, each decoded original color signal is output.	VIDEO → MAIN
		4	GND	GND		
		5	VOUT	Chroma R-Y signal or VIDEO R signal	For the chroma signal, input signal is immediately output. For the video signal, each decoded original color signal is output.	VIDEO → MAIN
		6	GND	GND		
		7	YUMHD	Horizontal sync signal for microcomputer	Horizontal sync signal input to be entered in microcomputer when a chroma or video signal is used.	VIDEO → MAIN

Between PWBs	Connector name	Pin No.	Signal name	Acronym	Complementary description	Signal direction
		8	GND	GND		
		9	YUMVD	Vertical sync signal for microcomputer	Vertical sync signal input to be entered in microcomputer when a chroma or video signal is used.	VIDEO → MAIN
		10	YUHD	Horizontal sync signal for A/D	Horizontal sync signal input to be entered in A/D converter when a chroma or video signal is used.	VIDEO → MAIN
		11	GND	GND		
		12	YUVD	Vertical sync signal for A/D	Vertical sync signal input to be entered in A/D converter when a chroma or video signal is used.	VIDEO → MAIN
MAIN-VIDEO	PC					
		1	GOUT	Signal G of PC	For the PC signal, an input signal is immediately output.	VIDEO → MAIN
		2	GND	GND		
		3	BOUT	Signal B of PC	For the PC signal, an input signal is immediately output.	VIDEO → MAIN
		4	GND	GND		
		5	ROUT	Signal R of PC	For the PC signal, an input signal is immediately output.	VIDEO → MAIN
		6	GND	GND		
		7	PCMHD	Horizontal sync signal for microcomputer	Horizontal sync signal input to be entered in microcomputer of the PC signal.	VIDEO → MAIN
		8	GND	GND		
		9	PCMVD	Vertical sync signal for microcomputer	Vertical sync signal input to be entered in microcomputer of the PC signal.	VIDEO → MAIN
		10	PCHD	Horizontal sync signal for A/D	Horizontal sync signal input to be entered in the A/D of the PC signal.	VIDEO → MAIN
		11	GND	GND		
		12	PCVD	Vertical sync signal for the A/D	Vertical sync signal input to be entered in the A/D of the PC signal	VIDEO → MAIN
		13	GND	GND		
VIDEO-POWER	PV					
		1	A+14V	14V power supply for analog circuit	For analog signal processing	POWER → VIDEO
		2	GND	GND		
		3	A+5V	5V power supply for analog circuit	For analog signal processing	POWER → VIDEO
		4	GND	GND		
		5	A+6V	6V power supply for analog circuit	For analog signal processing	POWER → VIDEO
		6	GND	GND		
		7	M+7V	7V power supply for microcomputer	Sync detector circuit for restoration from power management	POWER → VIDEO
		8	GND			
MAIN-VIDEO	AQ					
		1	SDA4	DATA of the I2C bus	Audio control signal	MAIN → VIDEO
		2	SCL4	CLK of the I2C bus	Audio control signal	MAIN → VIDEO
		3	POMUTE	Mute signal for Power start	Usually 4.8V	MAIN → VIDEO
		4	GND	GND		

Between PWBs	Connector name	Pin No.	Signal name	Acronym	Complementary description	Signal direction
VIDEO-AUDIO	AU					
		1	AU_L	Signal L	L CH for audio signal	VIDEO → AUDIO
		2	GND	GND		
		3	AU_R	Signal R	R CH for audio signal	VIDEO → AUDIO
		4	GND	GND		
		5	POMUTE	Mute signal for Power start	Usually 4.8V	VIDEO → AUDIO
		6	SCL4	CLK of the I2C bus	Audio control signal	VIDEO → AUDIO
		7	SDA4	DATA of the I2C bus	Audio control signal	VIDEO → AUDIO
RS232C-MAIN	RS					
		1	M+7V	7V power supply; the same as for microcomputer		MAIN → RS232C
		2	TXD	RS-232 driver output		MAIN → RS232C
		3	GND	GND		
		4	RXD	RS-232 receiver input		MAIN → RS232C
		5	M+5V	5V power supply; the same as for microcomputer		MAIN → RS232C
		6	GND	GND		
		7	REMIN2	Data signal for the wired remote control		RS232C → MAIN
		8	WIRED_CTL	Insertion control of the wired remote control	Usually 5V. 0V when inserted.	RS232C → MAIN
		9	CHILD_LOCK	Child lock control	0V for SW OFF. 5V for SW ON.	RS232C → MAIN
MAIN-SENT MAIN-SENS	TM TR					
		1	SCL5	CLK of the I2C bus	For temperature sensor	MAIN → SENS
		2	SDA5	DATA of the I2C bus	For temperature sensor	MAIN → SENS
		3	A+5V	5V power supply for ANALOG		MAIN → SENS
		4	GND	GND		
MAIN-PDP MODULE	AD					
		1	GND	GND		
		2	RA-	VIDEO input A-		MAIN → PDPMODULE
		3	RA+	VIDEO input A+		MAIN → PDPMODULE
		4	GND	GND		
		5	RB-	VIDEO input B-		MAIN → PDPMODULE
		6	RB+	VIDEO input B+		MAIN → PDPMODULE
		7	GND	GND		
		8	RC-	VIDEO input C-		MAIN → PDPMODULE
		9	RC+	VIDEO input C+		MAIN → PDPMODULE
		10	GND	GND		
		11	RCLK-	CKL- for VIDEO		MAIN → PDPMODULE
		12	RCLK+	CKL+ for VIDEO		MAIN → PDPMODULE
		13	GND	GND		
		14	RD-	VIDEO input D-		MAIN → PDPMODULE
		15	RD+	VIDEO input D+		MAIN → PDPMODULE
		16	GND	GND		
		17	RE-	VIDEO input E-		MAIN → PDPMODULE
		18	RE+	VIDEO input E+		MAIN → PDPMODULE
		19	GND	GND		

Between PWBs	Connector name	Pin No.	Signal name	Acronym	Complementary description	Signal direction
		20	RF-	VIDEO input F-		MAIN → PDPMODULE
		21	RF+	VIDEO input F+		MAIN → PDPMODULE
		22	GND	GND		
		23	RG-	VIDEO input G-		MAIN → PDPMODULE
		24	RG+	VIDEO input G+		MAIN → PDPMODULE
		25	GND	GND		
		26	RCLK2-	CKL2- for VIDEO		MAIN → PDPMODULE
		27	RCLK2+	CKL2+ for VIDEO		MAIN → PDPMODULE
		28	GND	GND		
		29	RH-	VIDEO input H-		MAIN → PDPMODULE
		30	RH+	VIDEO input H+		MAIN → PDPMODULE
		31	GND	GND		
		32	PSCK	CLK for power save data I/O		MAIN → PDPMODULE
		33	PLE	PSS read enable		MAIN → PDPMODULE
		34	PSS	Average signal level data output for power save		PDPMODULE → MAIN
		35	CLE	PSS latch enable		MAIN → PDPMODULE
		36	PSSC	Control data input for power save		MAIN → PDPMODULE
		37	ALARM	Panel break alarm signal		PDPMODULE → MAIN
		38	SDATA	Serial data for various data setting		MAIN → PDPMODULE
		39	SCK	Serial CLK		MAIN → PDPMODULE
		40	LE	Serial data latch enable		MAIN → PDPMODULE
		41	GND	GND		
MAIN-SENT FAN	F1					
	F2	1	A+12V	12V power supply for ANALOG signal		MAIN → FAN
	F3	2	GND	GND		
		3	FSIG	FAN alarm signal		FAN → MAIN
MAIN-POWER SUPPLY	PM					
		1	M+7V	7V power supply for microcomputer		POWER → MAIN
		2	D.GND	GND		
		3	T-ALM	Alarm signal	Usually H	POWER → MAIN
		4	D.GND			
		5	POWER	Power supply control	Usually H	POWER → MAIN
		6	POMUTE	Mute signal for power supply starting	Usually H	POWER → MAIN
		7	A+5V	5V power supply for ANALOG signal		POWER → MAIN
		8	A.GND	GND		POWER → MAIN
		9	A+14V	14V power supply for ANALOG signal		POWER → MAIN
		10	A.GND	GND		POWER → MAIN
		11	NC			
MAIN-POWER SUPPLY	PN					
		1	D+3.3V	3.3V for DIGITAL		POWER → MAIN
		2	D+3.3V	3.3V for DIGITAL		POWER → MAIN
		3	D+3.3V	3.3V for DIGITAL		POWER → MAIN
		4	D+3.3V	3.3V for DIGITAL		POWER → MAIN
		5	D.GND	GND		

Between PWBs	Connector name	Pin No.	Signal name	Acronym	Complementary description	Signal direction
		6	D.GND	GND		
		7	D.GND	GND		
		8	D.GND	GND		
		9	D+5V	5V for DIGITAL		POWER → MAIN
		10	D.GND	GND		
MAIN-LED	LD LE					
		1	REMIN1	Infrared ray remote control data		LED → MAIN
		2	LEDCTL1	Standby LED control		MAIN → LED
		3	LEDCTL2	Standby LED control		MAIN → LED
		4	GND	GND		
		5	M+5V	5V power supply for microcomputer		MAIN → LED
MAIN-PWR	PW					
		1	SW7	Power supply starting control	Usually 6.8V	MAIN → PW
		2	POIN	Power supply starting detection	Usually 5V	PW → MAIN
		3	GND	GND		
		4	M+5V	5V power supply for microcomputer		MAIN → PW
		5	M+7V	7V power supply for microcomputer		MAIN → PW
		6	NC	No-connection terminal		
MAIN-SW	SW					
		1	CTL1	Key input detection		SW → MAIN
		2	CTL2	Key input detection		SW → MAIN
		3	GND	GND		
AUDIO-POWER SUPPLY	PA					
		1	S+25V	+25V power supply for audio circuit		POWER → AUDIO
		2	S+25V	+26V power supply for audio circuit		POWER → AUDIO
		3	GND	GND		
		4	GND	GND		
		5	A+14V	14V power ANALOG circuit		POWER → AUDIO
		6	GND	GND		
POWER SUPPLY-PDP MODULE	PD					
		1	ALARM	Module alarm signal		MODULE → POWER
		2	GND	GND		
		3	GND	GND		
		4	D+5V	5V power supply for DIGITAL circuit		POWER → MODULE
		5	GND	GND		
		6	GND	GND		
		7	D+70	70V power supply for DIGITAL circuit		POWER → MODULE
		8	NC	No-connection terminal		
		9	D+170	170V power supply for DIGITAL circuit		POWER → MODULE
		10	D+170	170V power supply for DIGITAL circuit		POWER → MODULE
POWER SUPPLY-PDP MODULE	PH					
		1	D+170	170V power supply for DIGITAL circuit		POWER → MODULE

Between PWBs	Connector name	Pin No.	Signal name	Acronym	Complementary description	Signal direction
		2	D+170	170V power supply for DIGITAL circuit		POWER → MODULE
		3	NC	No-connection terminal		
		4	D+70	70V power supply for DIGITAL circuit		POWER → MODULE
		5	GND	GND		
		6	GND	GND		
		7	D+5	5V power supply for DIGITAL circuit		POWER → MODULE
		8	GND	GND		
		9	GND	GND		
MIAN-PL	PL					
(Note : MAIN PWB		1	NC	No-connection terminal		
No. is applied to		2	RX2+	Serial signal R (+ side)		PL → MAIN
the PIN No.)		3	GND	GND		
		4	RX2-	Serial signal R (- side)		PL → MAIN
		5	NC	No-connection terminal		
		6	RX1+	Serial signal G (+ side)		PL → MAIN
		7	GND	GND		
		8	RX1-	Serial signal G (- side)		PL → MAIN
		9	NC	No-connection terminal		
		10	DDC/SCL	CLK of the I2C bus for DDC writing		PL → MAIN
		11	DDC/SDA	DATA of the I2C bus for DDC writing		PL → MAIN
		12	SENS	Power supply detection		MAIN → PL
		13	NC	No-connection terminal		
		14	RX0+	Serial signal B (+ side)		PL → MAIN
		15	GND	GND		
		16	RX0-	Serial signal B (- side)		PL → MAIN
		17	DDC5V	5V power supply for DDC		MAIN → PL
		18	RXC+	CLK serial signal (+ side)		PL → MAIN
		19	GND	GND		
		20	RXC-	CLK serial signal (- side)		PL → MAIN
		21	GND	GND		
AUDIO-SPEAKER	LM					
		1	GND	GND		
		2	LOUT	Left-side speaker output		AUDIO → SPEAKER
		3	GND			
AUDIO-SPEAKER	RM					
		1	ROUT	Right-side speaker output		AUDIO → SPEAKER
		2	GND	GND		
MAIN-DSP	AM					
		1	NC			
		2	AMDP_CK2	Not used		
		3	VDD3	3.3V power supply for DIGITAL	3.3V for normal operation	MAIN → DSP
		4	VDD3	3.3V power supply for DIGITAL	3.3V for normal operation	MAIN → DSP
		5	VDD3	3.3V power supply for DIGITAL	3.3V for normal operation	MAIN → DSP
		6	VDD3	3.3V power supply for DIGITAL	3.3V for normal operation	MAIN → DSP
		7	VDD3	3.3V power supply for DIGITAL	3.3V for normal operation	MAIN → DSP
		8	GND2	GND		

Between PWBs	Connector name	Pin No.	Signal name	Acronym	Complementary description	Signal direction
		9	GND2	GND		
		10	GND2	GND		
		11	GND2	GND		
		12	GND2	GND		
		13	ENAMDP	Not used		
		14	SCL1	Clock line for the I2C bus	For DSP	MAIN → DSP
		15	SDA1	Data line for the I2C bus	For DSP	MAIN → DSP
		16	SDA_AMDP	Data line for the I2C bus	For DSP	DSP → MAIN
		17	XRST	Reset signal for the DSP circuit	5V for normal operation	MAIN → DSP
		18	GND2	GND		
		19	SYSCLK	System lock signal for the DSP circuit	10MHz	MAIN → DSP
		20	GND2	GND		
		21	VIO_BODD7	Digital video signal (B)	MSB	DSP → MAIN
		22	VIO_BODD6	Digital video signal (B)		DSP → MAIN
		23	VIO_BODD5	Digital video signal (B)		DSP → MAIN
		24	VIO_BODD4	Digital video signal (B)		DSP → MAIN
		25	GND2	GND		
		26	VIO_BODD3	Digital video signal (B)		DSP → MAIN
		27	VIO_BODD2	Digital video signal (B)		DSP → MAIN
		28	VIO_BODD1	Digital video signal (B)		DSP → MAIN
		29	VIO_BODD0	Digital video signal (B)	LSB	DSP → MAIN
		30	GND2	GND		
		31	VPUT_BEV7	Digital video signal (B)	MSB	DSP → MAIN
		32	VPUT_BEV6	Digital video signal (B)		DSP → MAIN
		33	VPUT_BEV5	Digital video signal (B)		DSP → MAIN
		34	VPUT_BEV4	Digital video signal (B)		DSP → MAIN
		35	GND2	GND		
		36	VPUT_BEV3	Digital video signal (B)		DSP → MAIN
		37	VPUT_BEV2	Digital video signal (B)		DSP → MAIN
		38	VPUT_BEV1	Digital video signal (B)		DSP → MAIN
		39	VPUT_BEV0	Digital video signal (B)	LSB	DSP → MAIN
		40	GND2	GND		
		41	VIO_GODD7	Digital video signal (G)	MSB	DSP → MAIN
		42	VIO_GODD6	Digital video signal (G)		DSP → MAIN
		43	VIO_GODD5	Digital video signal (G)		DSP → MAIN
		44	VIO_GODD4	Digital video signal (G)		DSP → MAIN
		45	GND2	GND		
		46	VIO_GODD3	Digital video signal (G)		DSP → MAIN
		47	VIO_GODD2	Digital video signal (G)		DSP → MAIN
		48	VIO_GODD1	Digital video signal (G)		DSP → MAIN
		49	VIO_GODD0	Digital video signal (G)	LSB	DSP → MAIN
		50	GND2	GND		
		51	VOUT_GEV7	Digital video signal (G)	MSB	DSP → MAIN
		52	VOUT_GEV6	Digital video signal (G)		DSP → MAIN
		53	VOUT_GEV5	Digital video signal (G)		DSP → MAIN
		54	VOUT_GEV4	Digital video signal (G)		DSP → MAIN
		55	GND2	GND		
		56	VOUT_GEV3	Digital video signal (G)		DSP → MAIN

Between PWBs	Connector name	Pin No.	Signal name	Acronym	Complementary description	Signal direction
		57	VOUT_GEV2	Digital video signal (G)		DSP → MAIN
		58	VOUT_GEV1	Digital video signal (G)		DSP → MAIN
		59	VOUT_GEV0	Digital video signal (G)	LSB	DSP → MAIN
		60	GND2	GND		
		61	VIO_RODD7	Digital video signal (R)	MSB	DSP → MAIN
		62	VIO_RODD6	Digital video signal (R)		DSP → MAIN
		63	VIO_RODD5	Digital video signal (R)		DSP → MAIN
		64	VIO_RODD4	Digital video signal (R)		DSP → MAIN
		65	GND2	GND		
		66	VIO_RODD3	Digital video signal (R)		DSP → MAIN
		67	VIO_RODD2	Digital video signal (R)		DSP → MAIN
		68	VIO_RODD1	Digital video signal (R)		DSP → MAIN
		69	VIO_RODD0	Digital video signal (R)	LSB	DSP → MAIN
		70	GND2	GND		
		71	VOUT_REV7	Digital video signal (R)	MSB	DSP → MAIN
		72	VOUT_REV6	Digital video signal (R)		DSP → MAIN
		73	VOUT_REV5	Digital video signal (R)		DSP → MAIN
		74	VOUT_REV4	Digital video signal (R)		DSP → MAIN
		75	GND	GND		
		76	VOUT_REV3	Digital video signal (R)		DSP → MAIN
		77	VOUT_REV2	Digital video signal (R)		DSP → MAIN
		78	VOUT_REV1	Digital video signal (R)		DSP → MAIN
		79	VOUT_REV0	Digital video signal (R)	LSB	DSP → MAIN
		80	GND	GND		
		81	AMDP_H2	Not used		
		82	AMDP_V2	Not used		
		83	VDD3	3.3V power supply for DIGITAL	3.3V for normal operation	MAIN → DSP
		84	VDD3	3.3V power supply for DIGITAL	3.3V for normal operation	MAIN → DSP
		85	VDD3	3.3V power supply for DIGITAL	3.3V for normal operation	MAIN → DSP
		86	VDD3	3.3V power supply for DIGITAL	3.3V for normal operation	MAIN → DSP
		87	VDD3	3.3V power supply for DIGITAL	3.3V for normal operation	MAIN → DSP
		88	GND2	GND		
		89	GND2	GND		
		90	GND2	GND		
		91	GND2	GND		
		92	GND2	GND		
		93	GND2	GND		
		94	GND2	GND		
		95	AMDP_VO	Vertical sync signal for DSP circuit		MAIN → DSP
		96	AMDP_HO	Horizontal sync signal for DSP circuit		MAIN → DSP
		97	GND2	GND		
		98	AMDP_CKO	Clock signal for DSP circuit		MAIN → DSP
		99	GND2	GND		
		100	GND2	GND		
		101	VIN_BODD7	Digital video signal (B/Pb)	MSB	MAIN → DSP
		102	VIN_BODD6	Digital video signal (B/Pb)		MAIN → DSP
		103	VIN_BODD5	Digital video signal (B/Pb)		MAIN → DSP
		104	VIN_BODD4	Digital video signal (B/Pb)		MAIN → DSP

Between PWBs	Connector name	Pin No.	Signal name	Acronym	Complementary description	Signal direction
		105	GND2	GND		
		106	VIN_BODD3	Digital video signal (B/Pb)		MAIN → DSP
		107	VIN_BODD2	Digital video signal (B/Pb)		MAIN → DSP
		108	VIN_BODD1	Digital video signal (B/Pb)		MAIN → DSP
		109	VIN_BODD0	Digital video signal (B/Pb)	LSB	MAIN → DSP
		110	GND2	GND		
		111	VIN_BEV7	Digital video signal (B/Pb)	MSB	MAIN → DSP
		112	VIN_BEV6	Digital video signal (B/Pb)		MAIN → DSP
		113	VIN_BEV5	Digital video signal (B/Pb)		MAIN → DSP
		114	VIN_BEV4	Digital video signal (B/Pb)		MAIN → DSP
		115	GND2	GND		
		116	VIN_BEV3	Digital video signal (B/Pb)		MAIN → DSP
		117	VIN_BEV2	Digital video signal (B/Pb)		MAIN → DSP
		118	VIN_BEV1	Digital video signal (B/Pb)		MAIN → DSP
		119	VIN_BEV0	Digital video signal (B/Pb)	LSB	MAIN → DSP
		120	GND2	GND		
		121	VIN_GODD7	Digital video signal (G/Y)	MSB	MAIN → DSP
		122	VIN_GODD6	Digital video signal (G/Y)		MAIN → DSP
		123	VIN_GODD5	Digital video signal (G/Y)		MAIN → DSP
		124	VIN_GODD4	Digital video signal (G/Y)		MAIN → DSP
		125	GND2	GND		
		126	VIO_GODD3	Digital video signal (G/Y)		MAIN → DSP
		127	VIN_GODD2	Digital video signal (G/Y)		MAIN → DSP
		128	VIN_GODD1	Digital video signal (G/Y)		MAIN → DSP
		129	VIN_GODD0	Digital video signal (G/Y)	LSB	MAIN → DSP
		130	GND2	GND		
		131	VIN_GEV7	Digital video signal (G/Y)	MSB	MAIN → DSP
		132	VIN_GEV6	Digital video signal (G/Y)		MAIN → DSP
		133	VIN_GEV5	Digital video signal (G/Y)		MAIN → DSP
		134	VIN_GEV4	Digital video signal (G/Y)		MAIN → DSP
		135	GND2	GND		
		136	VIN_GEV3	Digital video signal (G/Y)		MAIN → DSP
		137	VIN_GEV2	Digital video signal (G/Y)		MAIN → DSP
		138	VIN_GEV1	Digital video signal (G/Y)		MAIN → DSP
		139	VIN_GEV0	Digital video signal (G/Y)	LSB	MAIN → DSP
		140	GND2	GND		
		141	VIN_RODD7	Digital video signal (R/Pr)	MSB	MAIN → DSP
		142	VIN_RODD6	Digital video signal (R/Pr)		MAIN → DSP
		143	VIN_RODD5	Digital video signal (R/Pr)		MAIN → DSP
		144	VIN_RODD4	Digital video signal (R/Pr)		MAIN → DSP
		145	GND	GND		
		146	VIN_RODD3	Digital video signal (R/Pr)		MAIN → DSP
		147	VIN_RODD2	Digital video signal (R/Pr)		MAIN → DSP
		148	VIN_RODD1	Digital video signal (R/Pr)		MAIN → DSP
		149	VIN_RODD0	Digital video signal (R/Pr)	LSB	MAIN → DSP
		150	GND2	GND		

Between PWBs	Connector name	Pin No.	Signal name	Acronym	Complementary description	Signal direction
		151	VIN_REV7	Digital video signal (R/Pr)	MSB	MAIN → DSP
		152	VIN_REV6	Digital video signal (R/Pr)		MAIN → DSP
		153	VIN_REV5	Digital video signal (R/Pr)		MAIN → DSP
		154	VIN_REV4	Digital video signal (R/Pr)		MAIN → DSP
		155	GND	GND		
		156	VIN_REV3	Digital video signal (R/Pr)		MAIN → DSP
		157	VIN_REV2	Digital video signal (R/Pr)		MAIN → DSP
		158	VIN_REV1	Digital video signal (R/Pr)		MAIN → DSP
		159	VIN_REV0	Digital video signal (R/Pr)	LSB	MAIN → DSP
		160	GND2	GND		

BLOCK DIAGRAMS

VIDEO PWB

Analog video signal
Sync & other signals
Single Line
Two or more Lines

Signal Input Terminals

VIDEO IN 1 [PHONO] — CVBS IN
VIDEO IN 2 [BNC] — CVBS IN
VIDEO IN 3 [S-Video] — Y IN, C IN
SMODE1
DVD IN 1 (DVD/HD) [PHONO] — YPbPr/YCbCr IN
AUDIO IN 1 [PHONO] — L, R
AUDIO IN 2 [PHONO] — L, R
AUDIO IN 3 [PHONO] — L, R
AUDIO 1-3 L/R IN
PC 1 IN [D-sub 15pin] — RGB, HD/VD, VD, SCL, SDA
PC 2 IN (DVD2/HD2) [BNC]
FROM SiI151 HD & VD (PC3)
IC7001

Buff
PNPWE
PNP IC5002 24LCS21AT /SN

AV Switch

VIDEO1 IN
VIDEO2 IN
VIDEO3 IN(Y)
VIDEO3 IN(C)
Y (DVD2) IN
Y (DVD1) IN
Comb Y IN
Comb C IN
CVBS OUT (V1out)
SEL Y OUT
SEL C OUT
IC5001 TA1218F
EXT PO
EXT PO
AUDIO 1-3 I N
SEL AUDIO OUT L2out/R2out

SDA, SCL
EXT PO

Buff/LFP/Amp 6MHz
Sync SEP
Amp/LFP/Buff 6MHz
Amp/LFP/Buff 6MHz

UPD64083

IC5301
Image Processor
3D Y/C
SEPARATION

SDA, SCL

TC9090AF

IC5302
3L Y/C

SDA, SCL

Buff/LFP/Amp 6MHz
Buff/LFP/Amp 6MHz

MULTI COLOR DECORDER

IC5305
TB1274AF

CVBS IN
Y1 IN
C1 IN
Y2 IN
C2 IN
E_DVD IN
FSC OUT
Video SEL OUT
Sync IN
HD1(DVD1) IN
HD2(DVD2) IN
HD, VD OUT
YS1 (DVD2)
Y OUT
UV OUT
SCP

SDA, SCL

Frequency response correction

CTI/LTI

IC5306
TDA9178

IMPROVED YUV OUT

Buff
SDA, SCL

+13V
REG. (9V)
REG. (8V)
REG. (5V)
+6V

ANALOG+5V
DIGITAL+3.3V
DIGITAL+2.5V

EXTENTION PORTS

EXT PORT IC5605 M62320
HD1AON
PC1SYNONA
PC2SYNONA
PC3SYNONA
PC3SYNONB
PC2SYNONB
PC1SYNONB
HD1BON
SCL, SDA

EXT PORT IC5961 M62320
9178IN_A
9178IN_B
PNPWE
-
-
-
-
-
SCL, SDA

EXT PORT IC5971 M62320
CVBS_A
SOG_HD_A
CVBS_B
SOG_HD_B
SYNCTL_B
MYNCTL_B
SYNCTL_A
MYNCTL_A
SCL, SDA

EXT PORT IC981 M62320
HPOLA
VPOLA
HSTATEA
VSTATEA
VSTATEB
HSTATEB
VPOLB
HPOLB
SCL, SDA

Buff
Buff
Buff
Buff
Buff
Buff
Buff
Buff
Buff
Buff

PCT SELECT Switch

IC5501
MAX4548

SDA, SCL

NON STD CVBS/YC

AMP

IC5701
AD8023

DS_A
SELECTED RGB / YUV "A"
PICTURE "A"

AMP

IC5702
AD8023

DS_B
SELECTED RGB / YUV "B"
PICTURE "B"

RGB, YUV OUTPUT
To MAIN PWB
FILTER CERCUIT

VIDEO Block
SYNC Block

FACT.MEM

IC5005
CAT24WC16

SDA, SCL

PC_HD_ SELECT_A
PC_SELECT_B

Sync. Selector

IC5502,5503 5504
SN74AHC2G66 *3

PC1 HD/VD for A
PC2 HD/VD for A
PC3 HD/VD for A
(NO SYNC ENABLE)
SELECTED HD, VD "A"

Sync. Selector

IC5602,5603 5604
SN74AHC2G66 *3

PC1 HD/VD for B
PC2 HD/VD for B
PC3 HD/VD for B
(NO SYNC ENABLE)
SELECTED HD, VD "B"

HD_A, VD_A, COMP. Sync_A
HD_B, VD_B, COMP.Sync_B
S.O.G, HD

Select Switch

IC5801
SN74AHC2G66

CVBS_A
SOG_HD_A
SOG, Comp Sync, HD sync

Select Switch

IC5901
SN74AHC2G66

CVBS_B
SOG_HD_B
SOG, Comp Sync, HD sync

Sync. Sep.

IC5802
BA7078

HD , VD
PCV_POL_A
PCV_STAT_A
PCH_POL_A
PCH_STATE_A

Sync. Sep.

IC5902
BA7078

HD , VD
PCV_POL_B
PCV_STAT_B
PCH_POL_B
PCH_STATE_B

Video/PC sync. select

IC5803 SN74HC153

MSYNCTL_A
TO CPU HD, VD
+B(Sync 5V)

Video/PC sync. select

IC5804
74ACTQ153SCX

+B(5V)
TO A/D, etc
HD, VD
MSYNCTL_B
SYNCTL_A

Video/PC sync. select

IC5903 SN74HC153

TO CPU HD, VD
+B(Sync 5V)

Video/PC sync. select

IC5904
74ACTQ153SCX

+B(5V)
TO A/D, etc
HD, VD
SYNCTL_B

HD, VD "A"
HD, VD "B"
Synchronization Signal OUT PUT

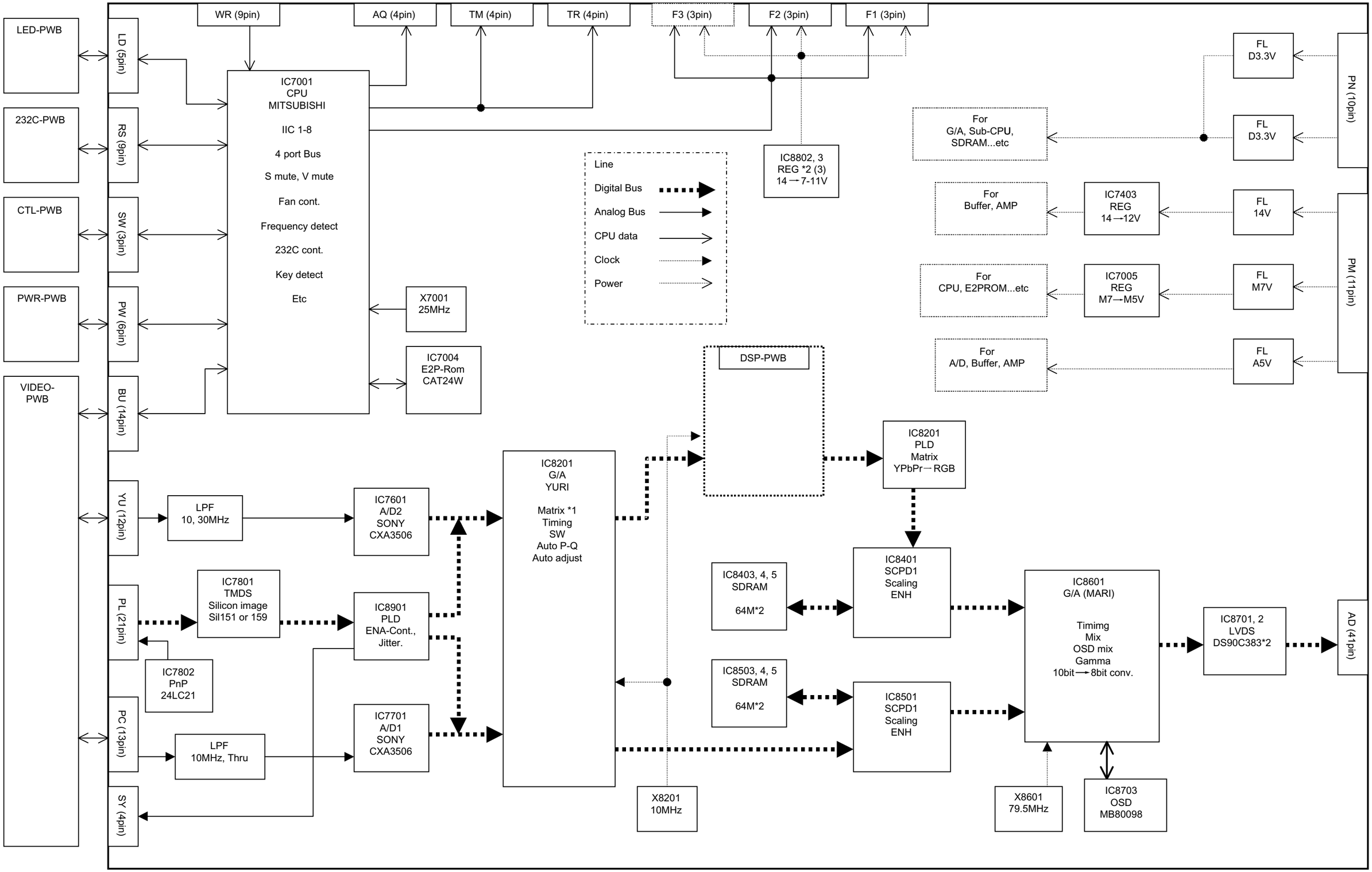
Selected L/R

TO MAIN PWB
SDA, SCL,
CTL signal

+B (13V)
+B (24V)

AUDIO BLOCK (PD-MA-2) AMP. & Sound Control

MAIN PWB


LED-PWB
232C-PWB
CTL-PWB
PWR-PWB
VIDEO-PWB
LD (5pin)
RS (9pin)
SW (3pin)
PW (6pin)
BU (14pin)
YU (12pin)
PL (21pin)
PC (13pin)
SY (4pin)
WR (9pin)
AQ (4pin)
TM (4pin)
TR (4pin)
F3 (3pin)
F2 (3pin)
F1 (3pin)
IC7001
CPU
MITSUBISHI
IIC 1-8
4 port Bus
S mute, V mute
Fan cont.
Frequency detect
232C cont.
Key detect
Etc
X7001
25MHz
IC7004
E2P-Rom
CAT24W
IC8802, 3
REG *2 (3)
14 ─ 7-11V
Line
Digital Bus
Analog Bus
CPU data
Clock
Power
FL
D3.3V
FL
D3.3V
PN (10pin)
For
G/A, Sub-CPU,
SDRAM...etc
For
Buffer, AMP
IC7403
REG
14 ─12V
FL
14V
For
CPU, E2PROM...etc
IC7005
REG
M7─M5V
FL
M7V
PM (11pin)
For
A/D, Buffer, AMP
FL
A5V
DSP-PWB
IC8201
PLD
Matrix
YPbPr ─ RGB
LPF
10, 30MHz
IC7601
A/D2
SONY
CXA3506
IC8201
G/A
YURI
Matrix *1
Timing
SW
Auto P-Q
Auto adjust
IC7801
TMDS
Silicon image
Sil151 or 159
IC8901
PLD
ENA-Cont.,
Jitter.
IC7802
PnP
24LC21
IC7701
A/D1
SONY
CXA3506
LPF
10MHz, Thru
IC8403, 4, 5
SDRAM
64M*2
IC8401
SCPD1
Scaling
ENH
IC8503, 4, 5
SDRAM
64M*2
IC8501
SCPD1
Scaling
ENH
IC8601
G/A (MARI)
Timimg
Mix
OSD mix
Gamma
10bit ─ 8bit conv.
IC8701, 2
LVDS
DS90C383*2
AD (41pin)
X8201
10MHz
X8601
79.5MHz
IC8703
OSD
MB80098